T. M. Cooley.

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ATTRACTIONS

OF

LANGUAGE,

OR A POPULAR VIEW OF

NATURAL LANGUAGE, IN ALL ITS VARIED DISPLAYS, IN THE ANIMATE AND THE INANIMATE WORLD;

AND AS CORRESPONDING WITH

Instinct, Intelligence and Reason;

A PHYSIOLOGICAL DESCRIPTION OF THE ORGANS OF VOICE; AN ACCOUNT OF THE ORIGIN OF ARTIFICIAL, SPOKEN LANGUAGE; AND A BRIEF ANALYSIS OF ALPHABETICAL SOUNDS.

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WITH AN INTRODUCTION
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[ILLUSTRATED.]

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PREFACE.

To manifest indifference, where we apprehend censure—to ask for sympathy, where we cannot hope for praise—to pronounce the sentence *"mene tekel,"* upon every similar effort—to perpetrate the most daring deeds of literary piracy, and then, pirate-like, attempt to scuttle the good ship that we have rifled, are too much *"tricks of the trade,"* either to obtain credence or disarm criticism.

The old Sculptor, who placed the Parian statue in the forum, that every passer-by might mark thereon, what seemed faulty to him, met a fate, which has many parallels in this "age of print."

A Grecian disfigured the nose because it was Roman, and a Roman battered the lip because it was Grecian. A crippled soldier deprived it of an arm, a gladiator demolished an eye, and a boor mutilated the bust; and when the artist went forth to profit by the comments of his teachers, he saw the beautiful creation that had heaved, as with life, beneath his chisel, and become human—intellectual—noble, beneath the tracings of his graver, dashed from its pedestal, a heap of misshapen fragments. As he sadly gathered them up, he learned that while demolition is the pastime of the many, the design and the execution are the unremunerated labors of the few.

I do not claim a martyr's niche, as some do, for I wrote all for love—the love of the subject; and if my reader feels half the pleasure in the perusal, that I experienced in the production of it, he will have as little claim to such a distinction as I have.

Indeed, so deeply am I interested in the subject, that I contemplate its continuation in a subsequent volume. If this

please you, well; and if not, you will be prepared for such a calamity; as being forewarned, you are also forearmed. The critic, who is so Quixotic as to imagine that this book is "worthy of his steel," might have gained an enviable reputation at the battle of the Windmills, but he can gain no laurels here. Capture a multitude of errors, he may; detect a host of blemishes, he doubtless will; but still, killed, wounded and prisoners all told, survivors enough will remain, to attest the frailty of the mortal who penned them. But let him point out the excellencies and discover the beauties, and if he succeed in *this*, my word for it, he will evince a clear discernment, and what is more, an acute penetration for which the world will not be slow to do him honor.

It is almost unnecessary to say, that I have availed myself of books in the composition of this work; that many of the facts contained in these pages may be found interspersed throughout the voluminous writings of Drs. Good, Griscom, Dunglison, Rush and Bell; and if the discerning reader discover anything here, of which he can trace no ancient and honorable lineage, why——I suppose he must call it mine. Especially would I acknowledge my indebtedness to Professor Kendrick, for the kind words of counsel and encouragement which he has often spoken; for the countenance which he has given to my little labors, and to which some of these pages bear ample testimony.

In this connection, I may be allowed to mention the name of Rufus Tiffany, of Michigan; the grateful recollection of whose faithful friendship and efficient aid in the gloomy hour of illness and disappointment, no distance can absolve, no time obliterate, till Memory's tablets shall be broken, and Gratitude's fountain dried up.

Somebody has said, that a preface is to the reader, what the desert was to the Israelites. I cannot help thinking how unhappy the pilgrim's lot, when, after a dreary sojourn in the prefatory wilderness, no promised land appears to bless his eyes, and while I think, I lay down my pen and —— stop.

Hamilton, June 8, 1842. B. F. T.

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INTRODUCTION.

Though reluctant to step between an Author and his readers, I yet cannot refuse to comply with the request of my young friend and former pupil, that I should accompany his debut before the public, with a few introductory remarks. Having read a portion of the following work in manuscript, and examined its sheets since they have issued from the press, it is my conviction that it spreads before the reader a most interesting page in the book of knowledge, and that, though immediately designed for youth, there are very few who may not reap from its perusal, both pleasure and instruction.

The Author treats of language. His design is, to exhibit the various methods by which ideas are imparted to the mind, both from inanimate and animated nature. He thus discusses the whole subject of natural and artificial language, ascending through every gradation, from the simple dialect of the vegetable kingdom, to the complicated mechanism, and manifold utterances of human speech. The field which he explores, is one equally extended and attractive, and in directing into it the steps of youth, and leading the way, he has rendered to them an invaluable service.

To follow the Author through the various topics discussed,

would be a work of supererogation. I will here only allude to his interesting speculations on Instinct, Intelligence and Reason. Whether the distinctions which the Author has drawn on these abstruse and difficult subjects, are entirely satisfactory, I will not undertake to decide. Some may regard him as having solved the problem, while others will hesitate to give a decided assent to his theory. Be that as it may, all will regard it as highly ingenious, and worthy of examination. We know not, indeed, that the darkness which invests these mysterious points, will ever be wholly dissipated; yet we greet gladly every ray of light that may be shed upon them. We welcome every well authenticated fact, even though we hesitate to yield an unqualified assent to the theory it is adduced to support. To him who fails to be convinced, yet the facts accumulated by the Author on these points will lose none of their intrinsic interest.

A delightful feature of the present work is the wide extent to which it draws illustrations from Natural History. Should it thus have the effect of awakening in the minds of youth, a deeper love of nature—a stronger relish for the pure pleasures which she waits to lavish on her votaries—a desire to drink deep of the delicious health-giving draught which sparkles in her ever-flowing cup, a most important object would be accomplished, and the toil of the Author, I doubt not, abundantly rewarded. Surrounded, as we are, by the endlessly diversified scenery of nature—her thousand forms of beauty alluring the eye—her thousand melodies ravishing the ear—her treasure house of unexhausted wonders lying open to our entrance—how little do we appreciate the extent and richness of her stores! In what inexcusable ignorance are we content to remain, suffering our eyes to roam heedless and

unadmiring over scenes, rich in every element of beauty and grandeur, and proffering to our enjoyment, "a perpetual feast of nectared sweets!" Let a youth be imbued with that love of nature, which will urge him to penetrate her secrets, and survey her wonders, and how healthful and invigorating its influence on his whole mental and moral character! The fashionable novel, with its seductive pictures, that at once vitiate the taste, enfeeble the intellect, and corrupt the heart, is thrown aside; the scenes of riotous dissipation are abandoned; and amid the ever-varied beauties of nature—amid her flower spangled meadows and mountain solitudes, he drinks health, and wisdom, and virtue. Who can resist the magic of natural scenery?

"Who can forbear to smile with Nature? Can
The stormy passions in the bosom roll
When every gale is peace, and every grove
Is melody?"

The Volume of Nature, like that of Revelation, is written with the finger of Jehovah, and teaches, in every page, the lessons of his wisdom and goodness. Let, then, the parent, who would multiply to his child the sources of innocent enjoyment, and preserve him from the seductive influences of vice, instil into his bosom a love for natural scenery and natural science. And to such, may I not particularly commend the following work? It attempts, indeed, no scientific exposition of any branch of Natural History—unless we may speak of the natural history of Language. But its numerous illustrations, drawn from the vegetable and animal world, cannot fail to engage the attention, and stimulate the curiosity of youth, more than would a work more formally scientific. It every where opens glimpses of that region of

enchantment—that fairy land, to whose real and living wonders the creations of romance yield as far, in all the elements of interest, as does the mud-walled cottage of the peasant to the banditti-haunted castle among the Appenines. 'Truth is stranger than fiction.' The inventions of man cannot rival in interest the creations of God. Upon the youth, then, I would urge the careful perusal of this work. Let them read it till the warm love of Nature, which it every where breathes, is transfused into their own breasts, and kindles in them an irrepressible desire to penetrate deeply into the mysteries of Jehovah's works.

I have dwelt so long on this topic, that I have little space to devote to that which is the main object of the work, viz. Language. But surely no remarks can be needed from my pen, to awaken an interest in this subject. What a mystery is the expression of thought! What a wonderful creation of the mind is Language! Subtle itself almost to immateriality, yet embodying and rendering palpable those subtler essences, thought, truth, and emotion! The medium by which mind communes with mind, and the electric flash of feeling is transmitted round the entire circle of intelligent and rational existence! To change the figure; now flowing on, a pure crystal stream, whose transparent depths reflect the cloudless heaven of truth; now breaking into a torrent of impetuous and impassioned eloquence, and now swelling and undulating into song! Such is Language—the mirror of the soul—catching its most delicate hues, its most fleeting emotions—preserving them in their original vitality and freshness, and transmitting them from age to age, making each successive generation the inheritor of the collected wisdom of the past!

Such is the subject which invites the attention of the reader of the following work, and were not *every* field of knowledge wonderful, we might claim for this a surpassing interest. Into the nature of written language the Author has not entered. But the mechanism of speech—the construction of that curious and complicated instrument, which he has expressively and happily termed the 'voice-machine'—the different origin and nature of the vocal elements, he has exhibited in a manner most clear and satisfactory. Those to whom this subject is new, will find in it matter of curious inquiry. They will find human speech made up of *sound* or *voice*, variously modified, issuing from the throat, (forming the vowels,) and, in its passage through the mouth, wrought upon, and *jointed* or *articulated* by the tongue, teeth, lips, &c., so as to produce the various consonant sounds. This power of articulating the voice, is a distinguishing characteristic of human speech, and led the observing ancients to designate man as the 'voice-dividing' animal.

But, commending this whole curious subject to the reader, under the able guidance of the Author, it only remains that I express my earnest desire, that the work may find, especially with the youthful community, a favorable reception. For them it is especially designed, and to all intelligent youth it cannot fail of proving highly instructive. The Author has evidently brought to his work a hearty love for his subject, and a due sense of the richness of the field which he explores. His researches have evidently been patient and thorough, and he has looked on nature with a quick and loving eye, which has enabled him to detect, as it were, her inmost soul. He writes in a free and joyous spirit, gives spontaneous utterance to pure and elevated sentiments, and displays,

every where, a vigorous and fertile mind. Should any of the more grave among his readers deem his spirit too light and frolicksome, they will easily make allowance for the exuberance of youthful imagination, and the warm, unrestrained flow of youthful feeling. To "frolic while 'tis May," may surely be innocently allowed to the fancy, which all too soon will be inevitably sobered by the stern realities of life, seen in the clear, uncolored light of reason and experience.

A. C. KENDRICK.

ATTRACTIONS OF LANGUAGE.

PART FIRST.

CHAPTER I.

What the Critic says to the author—His early difficulties—His opinion of English Grammar—His "position defined"—Remarkable coincidence in views—Author's plan.

"ATTRACTIONS OF LANGUAGE? English Grammar newly vamped, I suppose. A sort of gilded pill as bitter as ever; a liberal spoonful of medicine and sugar; the latter disappearing like an April snow—the former, like Æneas' voice, "faucibus hæsit," sticking to one's jaws for more leisurely rumination.

Now, if this attractive title only betokens a renewal of the dose, I declare to you of the book, that I protest against such cruel empiricism.

As for the "Attractions" that stare at me so saucily from your title page, let me inquire whether those winged moon-ites, or, as Webster has it, lunarians, which were pleased to render themselves visible to him of the telescope, (happy man!) made any disclosures on the subject, which have been misanthropically suppressed until now?

They must indeed be a late discovery; for my own part, I never spied any worthy of note. Stop; in fact, I have a confused recollection of a sort of capillary attraction, in whose efficacy my teacher manifested great confidence, especially in cases of listlessness and kindred maladies that afflict Murray's young disciples.

I studied English Grammar as other children, and by *dint* of certain forcible arguments, (*striking* is a more expressive word,) attained a mastery truly marvellous. I could ring all the changes upon the verb "to love" with astonishing accuracy and velocity; only intimate to me the first person singular of any tense, and I was off to the third person plural, with a speed that all the whips and spurs of New-Market could not have possibly accelerated; and then, simply tarried a moment for the signal, to display equal powers on any other portion of specified time.

I do not recollect that I ever acquired a momentum which carried me into another division without the "starting" word. No, like a well-bred racer, the height of my ambition was to reach the goal, and it was *a tense a heat*.

This is not all; I could rattle off the rules, numbers, notes, exceptions and all, with a velocity which would bid defiance to a very professor of stenography, and put a yankee pedlar or city auctioneer to the blush; and which not unfrequently fairly distanced my own thoughts.

So skilled was I, that my tongue would perform the various evolutions in the production of the verb "to be," without any volition on my part; and then what wondrous feats of legerdemain, we performed on the writings of Pope and Milton; now substituting a word here—now expunging one there, till our mystified intellects could compare a sentence in blank verse, (appropriate adjective !) to nothing less than Pandora's veritable box, containing

"All the ills that flesh is heir to,"

but which our instructor, (may he rest in peace!) facetiously termed "beauties."

I have sometimes laughed outright, when thinking with what a comico-serio visage, the blind bard or the prince of English rhyme would view a band of little urchins industriously employed in distorting, mutilating, murdering, any thing but *eating* his immortal lines, if like Samuel of old, he could revisit earth.

For example, in parsing (mysterious process,) that couplet of Pope's,

"In spite of pride, in erring reason's spite,
One truth is clear; whatever is, is right."

Only supply the single word "right" after the second verb, and "such a change!" What a flood of light bursts at once upon the passage, irradiating the countenance of the operator with a glory second only to its own.

How profound, how sublime the thought; how comprehensive the expression. What a system of ethics is contained in that little line. Shade of Seneca! It was not for thee. Just think of it; whatever is *right*, is right! I know not to whom belongs the honor of this and numberless discoveries of a similar character, but how easily could we pardon him, if with all the enthusiasm of the old philosopher, forgetting the fashionable habiliments of these degenerate days, he had rushed from his couch into the street, with the extatic exclamation bursting from his lips, "eureka! eureka!" "I have found it out! I have found it out!"

All this I accomplished, with an interest as deep and abiding, as if it had been in the unknown tongue, and when I think of the practical advantage, I am reminded of the remark of a shrewd playmate, when taken to task for a gross trans-

gression of 'Murray's Statutes,' of which he had been a hopeful student for the last half year; 'it cost too much to be used every day.'

I recollect once, after having mastered the *words*, further deponent saith not, in the definition of a Preposition, of pondering what sort of "relation" those little important members of sentences exhibited. I will not trouble you with the mental process, however logical, but the end of the whole matter was, that my deliberations involved me in a doubt, whether it was a blood relation or a relation by marriage, though I rather inclined to the latter opinion."

A truce, critic, a truce!

"A word more 'to define my position,' which I fear savors too much of the assailant's and I will relieve your patience.

It was not until years after, that "a light shone suddenly round about me," and revealed the mystery; these lights continued to break out from time to time, until English Grammar assumed a new, and I am constrained to say, interesting aspect.

It is from a vivid recollection of the time that was thus wasted in repeating words without regard to sense, when the number of pages committed, was of far greater importance than the number of ideas acquired, that I have perhaps betrayed myself into a confession of unparalleled obtuseness during my juvenile years, and at the same time have done you injustice; while I would only express my honest indignation against those men, who for the sake of embalming a bantling idea of their own, wrap its skeleton-frame in the productions of other men's brains, resolving themselves into mere copyists, the strongest evidence of which is exhibited in the hereditary blunders that are thus entailed upon a reading youth, to the third, yea the fourth generation.

When looking back upon the days spent in the study of English Grammar, it appears to me that had I known how many avenues of pleasure its subject, language, opened up to me; had I known how much of the happiness in which my young spirit exulted, the companionship of friends and books, yea of the wide earth around, and the canopied heavens above; how language is as essential to thought, as it is to the *expression* of it; of thought, the birthright of mind wherever found, in the mines of Peru or the forests of Honduras; had I known how much all this was the direct gift of Language, the result of my study would have been widely different. Had I known what my teachers took for granted, that I *did* know, that the huge limbless trunk they bade me contemplate and admire, was only the *frame* of a living tree, clothed upon with its own peculiar beauty, and flinging its leaf-clad branches abroad, thus stripped of its glory for more minute inspection, I should have been cheered and encouraged, and even amid the bustle of a busy care-tinged life, should have turned from time to time,to contemplate Language, that wondrous limner of thought and feeling, as a recreation and delight.

Then again, what an instrument of music are the organs of voice? What can surpass or even equal it?

Its keys are as numerous as the emotions of the human heart; now tremulous with sorrow; now elevated with joy; now softened with affliction; now deepened with passion. And yet, how little did I know of it; I, who could finger the flute and flourish the bow with no contemptible skill; I, who knew the construction and tone of almost every common instrument; whom martial music could elevate and nerve, and almost transform into a warrior; I, who have almost wept at the strains of my own mellow flute, knew nothing of the construction and power of an instrument incomparably superior to all these, an

instrument which I inherited at birth, and which I could only lose in the last soft breathings of death!

Perhaps I have been too suspicious of the title, and that you have not written a Grammar, for I confess I have not even glanced at its contents. You may in fact have been gathering the branches and foliage of the subject, as I termed them, to interest and instruct the young Grammarian; to accompany and cheer him in his otherwise irksome task, and perhaps in the hands of him who has already passed the weary way, and who reverts with feelings far from pleasurable, to the labyrinths he threaded and the gloomy passes he trod, (for it is not *then* too late,) it may fling a ray of light back upon the dark valleys, lighting them up with a beauty which light only can impart, and awakening in his mind a new desire, to assume a branch of study, which once, more than all else, enhanced the happiness of his 'last day at school."

Give me your hand, critic! You are a person mei generis, that is, after my own heart, in your views of this subject, and have expressed (not to court a compliment,) my thoughts quite as well as I could myself.

To tell you the truth, it was my intention to write a few pages upon this very subject, but as the sentiments which you have expressed are so strictly in accordance with long cherished views of my own, it would give me peculiar pleasure to substitute them.

"I certainly have no objection, if my poor thoughts can in any way subserve the interests of education."

CHAPTER II.

Talk with the reader—What Language is—Conversation between a mother and her son—What the Ivy told Charles—Language of the Violet—The Lily—The Camomile—The Flax—The Willow—The Snow-Drop—The Aspen.

"Blessings on his head who invented writing!" exclaims the poor exile, that lonely tenant of a friendless home, when he sometimes views a little messenger penned, folded and sealed in his own little cottage, away over the deep, and glistening with the tears of a wife or a mother.

How often has the fond son, self-banished from the paternal roof to seek his fortune, uttered it, when a letter from that dear home, found him on a bed of languishing, and flushed his cheek, brightened his eye, and restored strength to his frame; while his physician, unconscious of the cause, idly marveled at the strange results of pills and powders. Who wonders at it, and yet what is *this*, compared with that nobler language,

> "That elder scripture writ by God's own hand?"

Have you never wandered away by yourself, into the woods and fields, and felt a something like *companionship* with the blue sky, the murmuring streams, the rustling leaves, the bee's low hum, and the voices of the ephemeral race that sports in the sunbeam? Did it not seem to you that the din of the city would sound unpleasantly to you at such a time, and feel ready to exclaim,

> "The whole broad earth is beautiful,
> To minds attuned aright?"

Then, at the evening hour, when gathered around the blazing hearth, you have gazed upon the countenances of your

brothers, sisters and parents, did not a gushing of gladness almost drown your heart? As the light and shade alternately flitted over their faces, like shadows on a lake, how often did you detect yourself trying to read the thoughts which thus clouded or illuminated them. That was the language of the countenance.

Go with me, if you will, and as we wander forth, we will listen to the language of nature; talk with the flowers, the stars, the seasons and the winds, for strange as it may seem, they all *can* talk. This is the language of Inanimate Nature,

> "'Tis unconfined,
> To Christian land or Jewry; fairly writ
> In language universal to mankind."

Then, if you are not wearied, we will hearken to the birds that tell their little tales of love and fear and care; to the insects that hum their pleasures and their pains; see too, the beast that *looks* his gratitude and rage; and thence respect our fellow-tenants of the earth, which, as they have a language of their own, have feelings; who shall say, not thoughts?

Then —— but I'll not stop to tell you now.

The flowers—those stars of the lower firmament! Who does not love to contemplate their annual phases from bud to blossom, and from bloom to fall? With what varied light they shine.

Perhaps you think they never talk; I presume your doubts will be removed, as were those of a young friend of mine. I will relate —— ah! here is the little convert with his mother; let him tell his own story.

"Why so thoughtful Charles?" said a fond parent to a lad who had seen scarce ten summers—"I hope that you had a pleasant walk." "Yes mother delightful, but I was thinking;

about a piece I read the other day." What was the subject, my son?" "Leaves having tongues, flowers talking, and the voices of the stars, but I did'nt believe it; I thought 'twas only poetry." "Do you remember any of it Charles!" "Yes, mother, for after it had told all about the wall-flower, and the daisy, and the hawthorn and laurel, and ever so many more, this line came in,

"Yes—flowers *have* tones—God gave to each,
A language of its own."

Oh, and now I recollect another,

"God spreads the earth, an open book,
In characters of life,
All where the human eye doth look
Seems with His glory rife;
He paints upon the burning sky
In every gleaming star,
The wonder of His homes on high,
Shining to faith afar."

"Well, do you not think it poetry now?" "Yes, mother, not that, but I think it is *true* too." "Why, my son?" "Because as I wandered down by that little murmuring brook, away in the woods, I saw a great oak lying on the ground with some sort of vine wound about it, as though it loved the old tree very much, and I saw that its little claspers were crushed in several places." "That was ivy, Charles." "Well, I lay down on a green knoll close by it, and that clinging vine somehow *told me a thought,* as I looked at it; how it was weak and had been creeping all its life, up and up, round and round, and loved the tree very much, and how it thought the oak was strong, very strong, because many great roots held it firmer than a house; but now the tempest had blown it down and crushed the poor ivy in the fall.

Then it seemed to say, cling not to earthly things, for even *oaks* will not last forever."

I might go on to tell you of what else the mother and her boy conversed, but I must omit it to ask if the flowers ever told *you* any thing.

Do you say no? I fear that you answer hastily; think a moment.

Did you never spy a velvet violet peeping out from beneath the snow, and as it unfolded its soft leaves to the winds so chill, have you not wondered why it woke from its winter's sleep so early, and feared that it could not live? And then when you have seen its tiny cup brimming with a June dew-drop, has it not seemed to rebuke your idle wonder at its appearance and apprehension for its fate; and to tell you how that Great Being, Who formed and cradled it in snows, and preserved it amid the cold storms, would much more preserve you?

Did you ever gaze upon that ancient rival of Solomon in his glory—the lily in snowy array;

"That Lily of the vale whose virgin flower,
Trembles at every breeze, beneath its leafy bower,"

without feeling that it had told you a beautiful, but humbling truth? As if it had said, 'deck your person as you will, you are not arrayed like *me!*' When you felt how hopeless it was to vie even with the little flower in external beauty, have you not been conscious that you possessed what the lily cannot claim? A *mind* that you might adorn, without fear of competition.

There is the Camomile; only yielding a sweeter fragrance as you tread upon it; one can almost think it an intelligent being, adorned with a christian grace. What a beautiful example of good for ill! How eloquent, yet fragrant is the rebuke which it sends up to us from its low bed!

The field of flax, heaving a mimic sea, with its blue blossoms.

The painter's canvas is infolded in its lawny stem; yes, and the very tints and lines with which he makes his bright creations almost live and breathe, receive their softness from its lint-seed urns.

Though all unwoven yet, paper is there, to whose fair sheets we owe the record of ten thousand thoughts, thoughts otherwise forgotten.

Flax had a language once; an humble tale of industry and toil; a homely one of peace and happiness and plenty, *homely* because *at home*.

The time *has* been, when poets loved to picture scenes of sweet content, where the "little wheel's" low humming round and round, made music; and when in mournful numbers they would sing of a home deserted, a hearth cold and lonely, and a little band that once clustered there, scattered and gone forever, they would with Rogers sing,

"Her wheel at rest—the matron charms no more."

"*Her wheel at rest!*" What a feeling of desolateness did this brief, this simple announcement once bring, but not so now. Those days are past, reader, for believe me, such work-day music never offends the ears of modern fashionables except by accident.

What an unseemly accompaniment would it be to the thrumming of the piano, or the long drawn sweetness of the "last new song," and yet the lace that flaunts so gaily in the assembly room, and the fair texture which bears the music of that very melody was *drawn out* to the tune of that same unseemly hum.

I said the flax had a language once; it speaks it yet, but with an air so lowly, so every-day-like, that I fear it is seldom heard or heeded.

I leave its teachings with you, reader, it is the language of truth.

The Weeping Willow! Who has ever seen its pensile form drooping over the streamlet or the tomb, without a feeling of sadness coming over his soul, and the touching remembrance of that time, when Judah's daughters sat down by Babel's waters and wept, and

"Silent their harps, each cord unstrung,
On pendent willow branches hung."

Thus the willow of Babylon, though a wanderer from its home in the far-off Levant, bears on its leaves a tale of sorrow.

In the early spring, the little Snow-drop bound in its icy chains, lies close to the frosty earth; but soon the ascending sun melts the crystal links, and the little prisoner looks forth beautiful amid the desolation.

How like the weary, hope-lit spirit, bound in the bonds of mortal sense, and chilled by the rude blasts of a wintry world, which would fain "fly away and be at rest;" and then, when that greater Sun dispels the winter and the gloom, how calm, how beautiful does the manumitted bloom in that bright, balmy clime of perennial spring, where there is no more change.

You have seen the Aspen Poplar conspicuous in the grove, with its silver livery of nature's putting on. Its thousand leaves, you know, will rock like cradles, and quiver at the *slightest breath*, as though a *tempest* shook a maple or a beech. How tremblingly alive!

What did the Aspen tell you? Did it not whisper, that while some minds, like maples feel not the breeze, and bow only to the gale, there are others whose quick feelings are as keenly sensitive as its own leaves; hearts whom a look will agitate, a light word melt, a harsh one wither? Thus then

it counselled; "remember your companions; be careful, kind; *remember*—what? the *aspen tree?* no, rather the *aspen-heart.*

I presume that *you* have had such talks with the trees and flowers, (for what youth, what child has not?) and I hope that *now*, if never before, you believe of the Language of Nature, in all her vast and beautiful departments, as did Charles of the piece he read, "if it *is* poetry, it is *truth too.*"

CHAPTER III.

A little floral dictionary—Language of the Nettle—The Bramble—The Olive—The Poppy—What grief will do—The Amaranth—The Mistletoe—What the author ventured to do for the sake of the dialogue—Why the flowers never told the reader a thought—A piece of advice which he will follow, if he please.

The language of this beautiful race is so intelligible, that vocabularies of the thoughts suggested by the different plants and shrubs have been written by individuals of several nations. Many a thought can be expressed in a nosegay, which will be understood equally well by the Spaniard, the Italian and the American; in fact, by all, who are acquainted with the habits and peculiarities of the several flowers which compose it; for, says the poet,

"In eastern lands they talk in *flowers*,
And they tell in a *garland* their loves and cares;
Each blossom that blooms in their garden bowers,
On its leaves a mystic language bears."

Gladly would I let him sing on, were it in accordance with

my design; but I have made a few selections of flowers and their language, which I will now give you. Such a list when complete, is called a Floral Dictionary.

Name.	Language.	Name.	Language.
Amaranth,	Immortality.	Lily,	Beauty with Innocence.
Beech,	Prosperity.	Liverwort,	Confidence.
Bramble,	Envy.	Mistletoe,	I surmount all obstacles.
Camomile,	Good for evil.	Nettle,	Cruelty.
Columbine,	Folly.	Olive,	Peace.
Cypress,	Mourning.	Palm,	Victory.
Daisy,	Innocence.	White Pink,	Ingenuousness.
Flax,	Domestic Industry.	Poppy,	Consolation.
Hollyhock,	Ambition.	Sensitive Plant,	Timidity.
Hop,	Injustice.	Snow-drop,	Hope.
Honeysuckle,	Affection.	Sun-flower,	False Riches.
Ivy,	Misplaced Affection.	Venus' Fly-Trap,	Beware!
Laurel,	Glory.	Wall Flower,	Love in death.
Marigold,	Grief.	Willow,	Pensive sadness.

Some of these sentiments will occur to you, as peculiarly appropriate. The Nettle, stinging at the slightest touch and piercing the hand with a thousand poisoned shafts, so minute as to elude the eye—a cruelty truly refined!

The Bramble, fair game for the farmer's hoe, and the gardener's hostility; how like envy; and in wide contrast, the Olive, whence the dove of olden time plucked the welcome token. What *can* it tell of, but peace? Seldom in the history of nations, has its lovely language been disregarded. How singular, that the green bough should be understood and respected, where even the white flag is unused and unknown. Upon many a shore pressed by the feet of strangers, it bears its glad, and I may say, heavenly mission, "Peace be with you."

The Poppy, the slumber-bringing Poppy,* with its scarlet leaves; what has it of consolation? Who does not know that sleep is the alleviator of sorrow; that the deep sobs of the child grow fainter and fainter as sleep comes on; that the aching heart is soothed, and the tearless grief of the man is assuaged, or at least forgotten in repose?

How pure, how God-like is that benevolence, which since man *would* be "of few days and full of trouble;" since he *will* foster hopes that must be blighted, and engage in enterprises that must be defeated, thus brought out of grief, its own sure alleviation.

Hence it is, that men, in the prospect of an immediate and fearful death, sleep calmly and sweetly, till the dawn of the fatal day, whose setting is not for them, and whose dews will water the heaving turf—their last covering. Such is the fact, and however strange it may seem, not to resignation and peace, but to the deep anguish of their bosoms, they owe that peaceful night.†

I might allude to several others, possessing equal significance and force; as the Amaranth, that favorite with the poets. Milton wreaths the crowns of angels with Amaranth and gold;

"Immortal Amaranth, a flower that once
In Paradise, fast by the tree of life,
Began to bloom, but soon for man's offence,
To Heaven removed,"

which latter fancy of the poet, one is more than half inclined to believe, upon finding a weed bearing a strong family resemblance to the pig-weed, that worthy representative in the vegetable world, of its stubborn, troublesome namesake in the animal kingdom, dignified with the appellation of Amaranth!

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*Whence we have opium, &c. †Dr. Rush on diseases of the mind.

It is an elegant foreign species however, which is referred to, that, surviving its faded sisters of the earth, still lives on, and whispers of immortality, to the beholder.

I might speak of the Fly-Trap, the Laurel, and the Wall Flower, that clings still closer to the crumbling ruin; of that little sailor, called the Gulf-weed,

"Sailing on ocean's foam,
Where'er the surge may sweep, the tempest's breath prevail."

In the words of Mrs. Lincoln, how strikingly analogous this poor weed to many a human being, blown about on the ocean of life, by every breath of passion or caprice! Who would not rather, like the mountain oak, meet the storms of life, firmly *rooted* in virtuous principles?

I will mention only one other—the Mistletoe. What an example it affords to the young; what a language it speaks to all! I hardly wonder that old Britain's priests, the Druids, held it in such veneration. Do you ask why?

A.* See this little plant with lance-shaped leaves and snowy blossoms, which I hold in my hand. R.† Where did you pluck it? By the brook? I think I saw something like it, bending over the stream. A. No, you never saw it there. R. On the hill or in the garden? A. No. R. O, I mistrust it grew on that high rock by the falls, for I observed some little vines creeping out of the fissures of it. A. You are wrong again; this strange little shrub never occupied an inch of earth on the globe. R. *Now*, at least, you have betrayed the secret; it is a *water* plant. A. I fear rather, that you have betrayed your *ignorance*, for I did not find it there. R. Pray where *did* it grow? You almost tempt me to think it a winged animal, living altogether in the air, or the pro-

*Author. †Reader.

duction of some other planet, perhaps the moon. A. Suppose I should give it to you, what would you do with it? R. I should probably throw it away as a very useless gift. A. Then I certainly shall not expose my little puzzle to such unmerited contempt. Suppose we take a walk in that grove, just across the road. Here we are; what a delightful shade—see, these are oaks; what mighty columns Nature rears, all from a little brown cup, not larger than a thimble!

R. What! Let me see that mis—mis— A. Mistletoe; do not express your gratitude for favors as you proposed to do. R. It is the same, the very same. A. What is the same—your intention? R. No, no, but look up on the lowest branch of that tall tree; there is surely a Mistletoe clinging to it: the same white, nodding flowers, and spear-shaped leather leaves. Now I can unravel the mystery; it doesn't grow on the earth or in the water, as other plants do, which have roots, but it lives on trees, lazy thing! It reminds me of some one I know, who idle himself, lives upon the hard earnings of others. A. Rather let it remind us of our dependence which we should feel and gratefully acknowledge, upon that great and good Being, to whom we are indebted for existence and every blessing which we now enjoy, or for which we hope.

Yes, reader, for I have clothed you with all this ignorance for the sake of the dialogue, take the language of the Mistletoe for your motto; not like it however, to depend upon the exertions of others, but upon your own energies, and though success may be as much of an enigma as I *supposed* it was, how a plant could grow, if neither on land nor rock, nor in water, you will find a sphere of usefulness and consequent happiness. "Determine then," says the Mistletoe, "to surmount all obstacles"—engage in a good cause, say I.

From the short list which I have given you, many a good

thought may be culled; unite the Bramble and the Beech; it would be an ugly nosegay, and it would tell an ugly truth: "envy attends prosperity."

Would you express this sentiment, affection for false riches is misplaced? Wind the Ivy about the Sunflower, and you have it; but would you speak of innocence and beauty, there is the Lily.

Some of these flowers never told *me* a thought you say. Shall I tell you why? For the same reason that you do not understand a book that you have never read carefully.

I presume that you have read the account of the early settlement of America; of a time when the Indians were not as now, a hunted few, but a mighty people; when our forefathers, a feeble band, sought liberty and a home in the wilderness of a new world.

In their intercourse with the natives, the whites were frequently obliged to send Indian-messengers to the settlements, for beads and blankets, rum and rattleboxes, looking-glasses, lead, bits of iron, and all that odd assemblage of the useful, worthless and ridiculous, that renders Indian traffic peculiar.

You will easily imagine that the traders could not be supplied like a modern secretary of Legation, with gilt-edged paper, Gillott's pens and rosewood desks; but with a broad green leaf for paper, a stone table of nature's hewing, and an old nail, they would trace what they wished to communicate, and send it by a native.

You can form no adequate idea of the reverence with which they regarded this wonderful leaf; one old chief put it to his ear, and after patiently listening for a while, shook his head with a disappointed air. Another addresed it in a very pompous speech of considerable length, and a third viewed it in speechless amazement.

Ignorant of writing, they could not comprehend the mystery, and the story of the "talking leaf," mingled with just enough of fiction to render it pleasant to an Indian's ear, formed one of their numerous traditions.

In the view which we have taken, *talking leaves* are no mysteries; though human hand has touched them not, they all have language; all are talking leaves. Read, yes, study this living page of God's volume, and though perhaps you cannot assign to each bud,

"A sentiment and speech,"

yet commune with them, for they will make you wiser and better.

Talk with the "flower-people;" they are the *inspired* of God, and will tell you nothing but truth. However varied may be their language upon some subjects, they have a common commission, a commission received from Him,

"Who flung them with a hand so free,
O'er hill and dale and desert sod."

It is implied in the remaining lines:

"That man where'er he walks may see
In every step, *the stamp of God.*"

Thus, though Milton's Eve, exclaimed in her farewell lament, as she hung over the flowers of Paradise,

"Oh flowers,
That never will in other climate grow,"

yet, wherever the outcast man has wandered, amid Alpine snows or burning sands, these beautiful inmates of Eden have gone out before him every where, fair and bright as ever, to bless him.

Wearied with the inconsistencies, and sickened at the absurdities of man's productions you may be, but you can ever

turn with confidence and delight to the pages of nature so diversified, yet so consistent, so beautiful, yet true.

Poverty may deprive you of books and papers, but you may have occasion to *bless* that poverty, as it compels you to read nature, if you read at all.

The splendid volumes of a princely library might assist you to *find* this or that in the great book of nature, for after all, they are nothing but its *tables of contents*, and who would reject a volume which cost them nothing, and *such* a volume!

In conclusion, are you not ready to exclaim with the poet?

> "There *is* a language in each flower
> That opens to the eye;
> A voiceless—but a magic power,
> Doth in earth's blossoms lie."

CHAPTER IV.

What we have done—Chat with the reader—Anecdote—Learning and knowing are two things—Language of the night—Distant lands—Morning on the Alps—What is nobler than mountain scenery.

Well, reader, we have had a short chat with the flowers; we put our ear to the earth, and caught the Violet's modest whisper, "trust in Providence," and the frost-chained prisoner's song of hope; we looked up and heard the Mistletoe's stirring exhortation, and the Aspen's thrilling words; we crushed the Camomile, and it blessed us.

Short as was our talk, it was long enough, I hope, to remind you what a vast treasure-house, Nature is, and more than this, that *it is all your own.*

That you thought of a hundred things that were omitted, I can easily believe; that you glanced at a hundred objects, which you would have gladly tarried to gaze upon, and wondered that I did not feel so too, is not strange.

In a theme, for which the field, the forest and the wayside furnish materials in almost boundless profusion, my duty is the pleasing but arduous one of *se*lection rather than *col*lection.

Are you so dissatisfied with me that you feel resolved to do your *own* selecting for the future? Have I discharged the duty so imperfectly, that you are more than half inclined to review the ground, with some better guide than I am; to become better acquainted, not with distant nations and far-off lands, but with the rainbow-painted tribes that inhabit the pastures, and whose forms are mirrored in the reed-hidden brooks? Then, indeed, have I been eminently successful, and can in sincerity bid you God-speed.

I remember driving, when a little boy, very swiftly through a beautiful but unfrequented valley. The thrush built her nest by the road-side, and the squirrel's shrill chirrup sounded from the bushes as we brushed by.

Whir-r-r, whir-r-r, and away went the cunning partridge, startled at the sound of wheels, from its leafy covert. Tump-te-tump, beat the gay-liveried wood-pecker on his hollow tree, till the single strokes degenerated into a *double drag*.

Still on we whirled, and as I glanced now on one side, now on the other, the pleasure of each glance was more than half spoiled by the thought of how much I lost in not being able to look all ways at once.

Ever and anon, the clear, bell-like note of some unseen bird, awakened all the boy within me, and I peered here and there through the foliage, to catch a glimpse of the stranger, but the road was smooth; smack, crack went the whip, and away we dashed, faster than ever.

A wicked thought came into my mind, "if a wheel would only run off—*then*"—my benevolence quickly added, "softly, ever so softly," but conscience, the little angel, whispered all the while, in most decided tones, "wrong, wrong." How *gladly* would I have given up the anticipated visit, and wandered the long day, amid those shady recesses!

As we hastened on, I spied on the sunny side of an old log, a sentinel woodchuck, in his overalls of gray; but as we approached, his clumsy heels twinkled in the air, as much as to say, "not at home to day," and he was gone.

It was the spring-time of nature, as it was of my young spirit; the trees wore a livelier green, and the wild roses that bordered the road exhaled a sweeter perfume than they were wont.

The blood in my veins, instead of flowing lazily along,

fairly *bounded*, for the breath of the thousand living, growing things around, somehow gave me *new* life, and I was happy.

Many a time since, have I thought of that beautiful vale, and the delight with which I should revisit those scenes, that like a dream of the past, haunt my memory still.

Thus I would have *you* feel, reader, and though in your future acquisitions, you may "forget the things that are behind," and among them, my little book, yet if I unseal any new fountain of pleasure to your mind; if Language appear no longer as an unseemly thing, "a root out of dry ground," devoid of freshness and beauty; if you begin to *know*, what you long ago *learned*, I shall glory in being thus forgotten.

"I linger yet with nature," said one, and *who* would not? Night has *its* language too; a kind of spirit-voice, not merely heard, but *felt;* so have the seasons. Shall we pass them by? Just as you please, reader; you can turn over the few following leaves upon this subject, unread, and they shall be mine, not yours; but if you do, remember that they are no longer your own; never turn back to them; remember! Or we can go on, hand in hand together, not that I should be lonely to ramble on by myself; O no, that *can*not be in such a world as *this* is, where flowers and stars and seasons talk; but we could converse, you know, "of this and that, and that and this," and when the hour of parting came, why, we would divide our little stock of knowledge equally, and as we traveled on life's journey, we both might wish our paths had run together longer.

Did the deep stillness of a summer's night ever wake you, reader? When the winds were asleep that sung your lullaby; when the purling brook seemed to glide more softly than it was wont, as if fearful to disturb Nature's repose; when the strange cry of "Whip-poor-will" had died away in the

thicket; when the "drowsy tinklings of the distant fold" were stilled, and even the more than Hebrew guttural,

"Brekekekex koax koax,
Brekekckcx koax koax,"

of those old choristers and ventriloquists of the swamp were hushed, and the dull roar of the mill-fall struck heavily on the ear, making the silence audible?

In such an hour, who has not sometimes had a feeling of wakefulness steal over his senses, quickening his ear and sharpening his sight, which neither "counting" nor any other opiate of childhood could dispel?

'Tis memory's resurrection hour. Then she gives up her dead. From her secret cells issue a thousand buried deeds to life again. The half-rased tablets glowed anew with lines traced long ago, and long ago forgotten; and as the tide of thought, a mingled one of sorrow, joy, regret, came rushing on, how did its heavings beat against your temples, as does the shut-up sea, against its prison walls.

Those temple-throbs! so painfully distinct and loud, you could not sleep!

Then, how you lay, and longed, and listened for the slightest rustle, or the alarm-note of a startled bird; how fervently you wished the herald horn would sound, or the slow clock strike, or even some fashionable mouse, make late repast on hoarded stubborn crust; any thing to break the silence and dissolve the spell. But no.

What sound as of a distant drum breaks softly on the ear? muffled and low. Hark! count the strokes. One—two—three—four—go on—more yet—sixty, one, two—it is a funeral march. Reader, *your own heart* plays it, for 'tis that you hear.

That low call, has Life, the drummer, beat, the live-long

day to lure your spirit home; the signal for the soul's review.

What a feeling of awe and reverence came over you, just to think of it. That clink of the machinery of life! night gives it voice and makes its language heard.

Has passion beat its jarring roll thereon? Then so much quicker will the tune be done. Its march played out, what then? How did the frighted soul turn swan-like on itself, and see itself a being that should survive that wondrous drum of life, yea, and the louder music of this busy earth.

'That hour of midnight was the *noon* of thought,' yes

"Of that mute eloquence which passes speech."

Was it not, reader?

What youth has not hung with delight, over the glowing descriptions of the traveler in distant lands? Of Alpine mornings; how some queenly peak, heaving from out "the sea of night," lights up her herald-fire; how the far-off unrisen sun mirrors his form in her centennial snows; then, how these solar watch-fires blazed from cliff to cliff, unsullied altars reared by Nature's God! Of mountain heights, the lone eagle's home, whence cities look like hamlets, and palaces like cots; how Europe lay mapped out beneath, with her blue-rushing Rhine, her castled hills and verdure-mantled vales; and how the clank of engines, the hammer's ceaseless din, the anvil's ring, and all the noises of a world of life, came up on the thin air, soft as the bee's low hum,

——"that winds her mellow horn,
Blithe to salute the sunny smile of morn."

Oft in my boyhood, did I long to stand on spots like these, that I might drink in the deep, rich grandeur of such scenes; I thought 'twould stir somewhat of nobleness within, and make a man of me. I almost despised my native home, its hills and

woods and streams, and felt like casting off the bonds of love that kept me prisoner there.

Reader, did you never feel so? I anticipate your ready answer, "yes." Well, suppose yourself that happy traveler, and as you stood at sunset, perhaps on Jura, the cry should ring along those snowy heights, "a world! a world in sight!" how quick would Europe's little acres, unrolled beneath you, be forgotten, as you turned your eye towards that upper sea, the azure depths of heaven!

There, sure enough it is, just heaving into view; a brilliant world! "O you only mean a *star* then." *Only*, reader! What are all the scenes which you and I admired so much, compared with that bright evening star?

CHAPTER V.

The stars of Heaven and Earth—Their language—The stars' lesson of Humility and Hope—The morning star—Its language—The Polar Star—Comets—The extinguished star—Its language—Our neighbor in the Universe—The Fall of Niagara—The sublime teachings of the Stars.

I said a short time since, that the flowers were the stars of this lower world; I would not recall the expression if I could. The stars above, bright, changeless ones, are *sisters* of the fair flowers, and frail as fair; these whisper of our present, those of our future self; you should regard them both; these as they fade; those as they shine, bright as when they

"Peal'd their first notes to sound the march of Time,"

or their birth-song floated over the cradled Earth, their young

sister. The stars of Heaven and Earth! Look on these, and see life's shifting scenes; three words express them: budded, blossomed,——blasted! and these three are all. Gaze up to those, and in their quenchless light, still shining on through clear and cloud the same, read of immortality. These are the stars of life's brief summer day; those are the stars that shed still brighter rays, amid the cold, clear winter's night of death. Turn to these; their faded forms remind you, you must die; then look on those; they tell you, *you will live!*

"Heaven bless our stars!" is often uttered as an idle word, but let *me* say, will all their lessons now newly graven on my heart, Heaven *bless* our stars!

You have sometimes continued gazing at them, till the dews of the listening night fell free and fast; till you felt how diminutive was the little craft you sailed upon, when the great unnumbered fleet of worlds hung out their signal lights; till the tumult of passion was all hushed, and the thoughts of your heart, like the tides of the sea, flowed up towards Heaven and God. Then the stars whispered humility's lesson in your ear.

Then there are stars of the morning too. See that bright sentinel-star, that yet far from its setting, has outwatched the night; like a ship at sea, whose unextinguished watch-fire still faintly gleams across the deep, through the morning's pearl and gold, that finds it out of port.

See how its feeble ray struggles with the sunbeams; one can almost fancy it receding into the liquid depths of heaven, a fugitive from day. Now the strained eye can scarce discern its pale and fading form; brighter now—now dim—a point; 'tis lost—melted, melted into light.

What a beautiful language does it speak from its high

home, to a struggling hope; what a rebuke to the doubting! Many a *spirit* bright and heavenly as that star, waiting not to set, has "gone out" in the midst of a career as high and glorious as its own; gone out, amid the wonder and grief and doubt and murmurings of men. 'A fate so dark, so saddening!' they say. Dark? Saddening? In the teachings of that star, how beautiful, how sublime, when the pure, parting spirit, in the language of White,

"Sets as sets the *morning star*, which goes
Not down behind the darken'd west, nor hides,
Obscured among the tempest of the sky,
But melts away into the light of heaven."

There is the Polar Star,

"Whose faithful beams conduct the wand'ring ship,
Through the wide desert of the pathless deep."

Who ever saw it shining from out its northern home,

"With the faint tremblings of a distant light,"

and his thought did not hover over the mariner on the yeasty deep? When the storm howls through the shattered rigging, and shreds the half-reefed sails; when the masts creak and bend beneath its power, and the hoarse call of the speaking-trumpet, "all hands on deck!" is faintly heard amid the crash of spars and the roar of waters; when the reckoning is lost, and the compass dashed in pieces, then the poor sailor looks aloft, and there, *above* the gloom of storm and night, the curtaining clouds half-drawn, shines the Pole-star, the hope-light of his soul, beaming down, bright, beautiful, fair as ever!

Is there no language in the Polar Star, reader? *Life* is a troublous sea, and *all* men, mariners; when earthly guides and hopes are almost gone together, that star whispers, "look aloft! look aloft!"

While gazing at those bright, untarnished links of time, one feels a kind of companionship with the men of other and far distant days, and the long ages dwindle down to years. Why, just over your head in a clear January evening shines Orion; the same Orion that Chaldean shepherds saw; the same "dire Orion," that roused the sea in Virgil's time, when

"All charg'd with tempest rose the baleful star;"

the same Orion to which the inspired prophet alluded, when gazing at the stars as we do now, he uttered the sublime injunction, "Seek Him that maketh the seven stars and Orion, and turneth the shadow of death into morning." Yes, the seven stars are there, and "Arcturus with his sons." Then southeast of the zenith shines Sirius the dog-star, to which Rome's haughty priests made sacrifice, and earlier yet, the dark Egyptian watched its glowing disc, his herald-star of harvest and the rising Nile, and older still, 'twas time-piece of old Thebes!

Did you ever think as you watched its fair light, that Sirius was a near neighbor of ours, in the universe of God? It is, and yet were it to fly from its orbit towards the earth, at the rate of a million of miles each day, forty three thousand, three hundred years would roll by, before its journey would be done. Sixteen billions of miles! Who can comprehend it? Express it in figures: 16,000,000,000,000! Who can number it? And this, reader, *this* is a *neighbor* too! Take the wings of the morning light and visit it, and then, as you stand on that far-off isle, look away on, into the depths of immeasurable space, where thickly blaze the congregated fires of suns, perhaps the destined centres of new and nobler systems, which shall yet people some distant region of infinity! *Who* will say, even then, that mortal eye has seen or human

heart conceived, more than the suburbs, the very outskirts of created things?

How do the starry hosts seem to lift up their voices together; how fearfully sublime the language, when,

"The countless spheres of yonder sky,
Catch up the wondrous strain;
When bending o'er their golden lyres,
As if at monarch's nod—
There issues from a million choirs,
The same deep whisper—God!

Who can look upon the red furnace-glow of a comet, with its fiery train of a million of miles, and not feel an undefinable sensation of awe, as in the presence of some strange, mysterious being? What worlds uncalendared, uncalculated, were dazzled by its glare; on what strange errand sent; when first it started on the mighty round; whether creation's morning was the time? If then, 'tis now just heaving into view from

"The long travel of six thousand years."

These, and a hundred other thoughts flash on the mind. But when we bid imagination trace its brilliant wake, back into the depths whence it emerged, or following on its guiding light, with it, "to double the mighty cape of heaven," and plunge again so far from home and earth, that thought and science never wandered there; *then* that comet tells us that *its* controlling power must be Almighty, nothing less!

If one of the fixed stars should be, this moment extinguished, or obedient to the Word, should wheel in some new orbit beyond the bound of the far-seeing telescope, we should STILL behold it shining there bright as ever; astronomers would continue to number it among the stars, for it would still be counted one; its name would be often spoken among men, for its clear light would STILL keep flowing on, the long

way down to earth.* Year after year might glide away, and the rays that left their birth-place last, would not tremble YET, upon the gazing eye!

What does the quenched star seem to say? Is it not this? "*You* too, must leave a legacy behind—your influence! Let it be, like mine, a legacy of *light*, and then, long after you have been translated to that other firmament which Astronomers know not of, it will still linger, gilding the night and darkness of an evil world, with its own glory, as it beams, gladness and a guide to some weak, wavering heart."

"So shines a good deed in this naughty world!"

Such are the lessons of the stars, freely given as their own light; lessons of humility and immortality, of hope and faith. But we have already lingered long beneath the evening sky, and casting one glance more at that scroll of worlds, let me commend it, the noblest language of Nature and of night, to your further contemplation.—

The Fall of Niagara! The thundering waters! Who has not heard of that native home of clouds and ceaseless showers; of its walls of living rock, its rainbow-circled front, its awful flood, "poured, as if from God's own hollow hand?" Heard how forest trees, a moment tremble on the fearful verge; then plunge into the deep abyss, whirling and quivering there, throughout their giant frames, as light straws in the autumn blast? Who has not heard all this, and fancied, as he heard, how, when it burst upon his sight, its voice broke on his ear, with awful grandeur far surpassing all the conceptions he had ever formed?

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* It is calculated that stars of the sixth magnitude are not less than 200 millions of millions of miles distant from the earth. How long would light be, in performing such a journey, moving 193,000 miles in a single second?

It would not be strange, if the illusion vanished with that first glance; if with an irrepressible feeling of disappointment he should exclaim, "is *that* Niagara? He might wonder at the inspiration it had awakened in many a bosom; he might feel it in his heart to blame those narrators, whose descriptions, more from their acknowledged imperfection, more from what they left untold than from what they actually delineated, had lured him on a pilgrimage to the spot.

He would look again and again, but it would only be after long contemplation, when he saw how the tall trees, tall, I mean, in their native woods, were dwarfed in the mighty contrast; it would only be, when he had climbed its towering cliffs, and descended its steep declivities; when from above, he had looked into the yawning chasm, and convulsively thrown himself back upon the earth, as if to thwart the mysterious power that almost charmed him from its verge; when from below, he had looked up the foaming flood till his brain reeled; then only, would his feeble powers begin to comprehend the majesty of the scene; then begin to feel that this *is* Niagara, sublime indeed beyond all that he had ever heard or imagined; THEN, he would know something of that language which can be *felt*, but not translated into the set phrase of speech.—

Seeking an illustration, I undesignedly selected a noble specimen of the language of nature; one however which loses half its power in being told, and which to be felt, must be both seen and heard.

It is with that portion of the Universe which night discloses, as it is with the cataract; to a casual observer, stars seem so many bright gems in the sapphire floor of heaven, brilliant and beautiful, without being sublime; but to him who studies them, who by various calculations determines their magni-

tude, multitude and distance, they assume their own true aspect, and seem what they really are—worlds!

Many a star is at such an inconceivable distance, that it produces no physical effect upon our globe, and yet its light just trembles on the upturned eye; as if God had written there in the bright blazonry of heaven, the immensity of the Universe, His own infinity; and yet our powers can come, only by slow degrees, if ever, to a developement which will enable us to grasp the thought.

Conceive, if you can, what fields of space untraversed yet by human thought, flung out by the Almighty's hand, extended, lie this side that twinkling world. Send earth on towards it; earth, moving at the rate of a million and a half miles every day. Hurry it on; suns rise and set; moons wax and wane; snows fall and melt and disappear; men grow old, and turn their blinded eyes away, wearied with watching the distant star that twinkles yet, a lucid point!

Still earth speeds on; men wondering, lay them down and die, and dying, tell their children; they gaze too, and calculate; calculate and gaze, and then THEY die. That star shines dimly yet, as the lamp of some far light-house, struggling with the night!

Send light express; light, which each tick of clock finds farther on its way, almost two hundred thousand miles. The swift-winged messenger grows old and gray, its journey yet undone!

If this be not enough, send thought. Take Herschel's telescope; turn it towards the gauze-light curtain of the Milky Way,

> "Which nightly, as a circling zone, thou seest
> Powdered with stars."

That wondrous fabric wove in Creation's loom, is rent! Its parting threads resolving into worlds, disclose still other sys-

tems, blocking up the vast highway, "whose dust is gold," but opening still to thought's progressive flight, the bright retainers of the halls of heaven; as the distant wood, seeming so deep and tangled, presents an opening vista as we nearer come.

Onward still, till wearied thought, lost in the wilderness of worlds, that closing far behind, seem cutting off retreat,—adoring, trembling thought, flies humbled back to earth!

What awful language has the stars. WHO wonders that the bard, with voices such as these, resounding in his spirit's ear, should say,

"Divine Instructor! Thy first volume this,
For man's perusal; all in capitals!
In moon and stars--heaven's golden alphabet!
————and open'd Night! by thee."

What will more appropriately close our view of this illumined page, than the almost *triumphant* interrogation of Mrs. Barbauld?

"Is there not a tongue in every star,
That talks with man, and woos him to be wise?"

CHAPTER VI.

Language of the seasons—The voice of Spring—Of Summer—Of Autumn—Of Winter—Definition of language as already considered—Review—Proposition to the reader.

"There is a voice with spring's sweet music blending!
On every leaf and opening bud, a line;
Field, forest, stream, soft notes to thee are sending;
Listen! they breathe of life"——

Will you, reader? Reason trembling asks, "if a man die, shall he live again?" Who will answer? Men cannot, nor angels. Then Spring's resurrection-call breathes softly over the hills and through the vales; and as the slumbering hosts, 'earth's mute but living daughters,' come forth, clad in the garments of beauty, their sweet offering of praise going up on high, THEY answer,

"Cold in the dust, thy perish'd heart may lie,
But that which warm'd it once, *shall never die!*"

The lowly Liver-leaf, hearing that breezy call, unfurls its triple banner of pale blue; in the deep woods, the sweet Anemone catches it, and blooms. The Maple and the Elm are clothed again, and the glossy-leaved Willows line the streams; the yellow violets peep out, here and there, at the life-giving word; the roaming strawberry sends forth its tendril-scouts, and the gray, velvet mosses too, are touched with a new coat of green. The brooks loosed from their icy chains, flow carelessly along the pebbly channel, with a silvery sound of joy.

"The time of the singing of the birds hath come," and they, you know, make music for the silent host, redeemed from winter and death, and singing on, they keep the chorus up, for the flowers *to grow by;* so the birds keep tune, and the

flowers keep time! Singing and springing! Who does not love the morning of the year? Then, *rainbows* are born about this time, for an April day is a *childish* thing, all smiles and tears, sunshine and showers; and when the flowers fling off their little gray shrouds, there hangs the bow, and straight, their discs reflect its colored light; some, like the Lily, blend its hues in one; some crimson as the rose; some sport a mantle of light green, but *all* are daughters of the Bow and Hope! So will it be, in that great waking hour, when all the just shall stand arrayed in light reflected from above; so in that hour will shine *their* bow of promise in a cloudless sky!

Every thing goes by music in these days; the birds build their nests to some merry measure; the dawn is ushered in with a song.

Have you never been by, when the winds "turned out" from their thousand leafy berths? If not, I say to you,

> "Up! up, arise! haste, haste! the vernal morn
> Purples the orient sky; and see! the rays
> Of the young sun, the eastern hills emblaze;
> Quick, quick!"

Hasten to some neighboring wood; how still is every leaf, but hush! hark, what sound is that like distant voices, coming up from the deep, dim vale? Nearer, clearer! The winds are turning out now; see how their little couches rock and swing. On they come to greet the morning with the earliest song; just in time—for hear, the deep note of some waking bird rings from the thicket. The brooks play a prelude; the winds and the wooded vales together, make the bass, and the birds put in the variations. All the parts in the great anthem are filled, but one; and that is yours, reader; join then, in the gushings of gratitude, the true, unwritten melody of the heart!

Sweet May comes on; then "leafy June." The forest trees put on their glory now; the deep green Oak, the lighter Elm, and paler still, the Ash; the silver Poplar and the Willow gray—all green, yet each a varied hue! The Indian Pipe, that elegant specimen of Nature's wax-work, with its nodding flower and leafless stem, all white as ivory, catches the eye, here and there near the roots of old trees. The ever green Laurel and the rough-coated Dogwood are rivals now; the latter all sprinkled over with snowy flowers; the former decked with clusters just as white, but for a faint *blush,* which makes them lovelier.

Now the Side-saddle flower or Adam's cup rears high a temperance banner of dark purple, in the reedy swamp; for, from its root spring leafy cups, all filled with crystal water. By the shady brooks swing the little yellow pitchers which Touch-me-not hangs out, and the Winter-green lifts its delicate blossom of pink from among the dry leaves, while the little Blue-bell peeps fearlessly over the rocky cliff. The ambitious Clematis or Virgin's bower climbing to the tree-tops, hangs in rich festoons of white, her silvery plumes from bough to bough. The summer hours roll on. The insinuating Dodder, now gaily trims the trees and shrubs by brook and pond, with bright, gold, thread; *all for its board too,* for while it clings so *lovingly,* its little fibres are greedily drinking the "dear" plant's juices, up! Contemptible parasite! The fragrant Lilies of pure white appear on many a smooth pond and glassy lake; their yellow sisters, too, rise here and there from the clear wave; their large round leaves rest gently on the water; all moored with living cables, green islands though they are; unpeopled, save when some hapless fly is stranded there, or a young water-snake seeks the leafy land, and coiling up, lies there to sun itself and sleep.

The Blue-flag waves on the point of its green, supple blade, a challenge, writ on red and blue in yellow lines, all stolen from the bow; a challenge for that haughty foreigner, the Fleur-de-lis.* These, too,are quickly gone; the scarlet Lobelia and the white Clethra,† tarry yet, fringing the brooks with mingled beauty, and the queenly Sunflower, now in "the full," rears her tall head above the rankest weeds of autumn.

These, "one-by one depart," as the year's evening steals slowly on; the star-like Aster lingers longest, yet smiling faintly mid the withered grass.

"A spirit in soft music calls
From Autumn's gray and moss-grown walls,
And round her withered tree."

To me, this twilight of the year is her loveliest season. It talks so much of the close of a well-spent life; the sabbath of the year, and full of sabbath lessons. The bright glare of the summer's sun, is softened into a mellower light; a sweetly mournful smile rests on the face of nature; her work already done, she lingers yet, like some aged man, and waits her change; waits too, IN HOPE! Yes, when dismantled of the robes of death, "the tender germ which in a case russet and rude, is folded up," the embryo plant, within its little shell, round which,

"Life's golden threads in endless circles wind,"

borne by the winds to some distant shore, or hidden in the rocky cleft, or buried in the deep vale, slumbers in hope, till spring shall call it forth, life out of death! How like a good man full of honors and of years, "whose flesh shall rest in hope!"

Now the Ashen seed with its single, polished oar, sculls

* Generally spelled, Flower de luce. † Sweet pepper-bush.

through the sea of air, to find a home; the Maple spreads its bat-like wings, or sails, (just which you please to call them,) and scuds before the blast, seeking a refuge from the wintry storms. The Dandelion lifts its saffron disc from some humble spot; withers there, and there, "is silvered o'er with age." A strolling boy spies it and plucks it, and rudely blowing off the uncombed locks, from the old gray head, he wanders on, piping now and then a dronish note upon the hollow stem.

The hapless flower is gone, but when you see the air filled with these strange balloons of Nature's make, a living passenger in each—now rolling lightly on the ground, and now borne up again, soaring away, across wide streams, above the forest trees, can you help thinking what hosts will turn their yellow faces up, next spring, on many a spot where Dandelion never grew before? What language have these traveling germs of life? Is it not this? "Fill your place, humble though it be; the labors of *your* summer hours will not be lost, but borne by men, yes, by the very winds, will influence many a mind, cause many a distant heart to bless the stranger, while you obscurely live, obscurely die; but not ignobly. Fill your place, then; do not imagine that *your* influence will weigh nothing in the scale of the world, but ever remember, that the good which you do, will as certainly swell the amount of human happiness, and lessen the burden of human misery, as flowers will smile and trees rise from us, little wanderers upon the wings of the wind!" Long might I tarry as seasons glide away, and catch such words as these; you can do so too, and as they pass swiftly on, let them be numbered not by signs or changing moons, but by the *lessons left;* then should your years be few, they'll *number* well!

Fall has its scenes of beauty, too, that fill the soul with beauty like their own. Who has not seen them? Go out in

the morning, while yet the frost-lace from the loom of Night, flung over turf and tree and mossy stone, gleams like silver in the soft sunlight; when veils of artful pattern, woven by that industrious old hermit, the field spider, are stretched from limb to limb, on many a tree and bush; veils inwrought with silver threads, and now and then a dewy pearl, curiously set in. Go out, when streamers of gossamer float in the still air; when chandeliers of crystal ice, (the newest style,) studded with gems of purest water, are pendent from the trees, gleaming with violet, green and gold, with brilliant hues, all borrowed from the sun! When the breeze comes up, see, what a shower of pearls and light they shed! To purchase half the gems would beggar kings! This is the very *gala day* of Nature, who, bridemaid to the waning year, has decked her thus. Why should she not? The year will soon be married, "married unto death."

Who talks of princely pageants that has witnessed aught like this? Who boasts to you and me, of being by, when queen Victoria donned the ponderous crown?

Had you gone out in the still hour of night, you would have heard from tree to tree, a clear ringing sound, as if the fairies fired platoons in mimic fight. Nature was casting crystals then, in molds of air!

This evening of the year has sunset glories of its own!

Let him who dwells amid huge piles of brick and stone; whose walks are bounded by the *city's* bound; who never wandered forth when "autumn's smile beams through the yellow woods," talk of the works of art; of splendid halls, where Genius' bright creations almost live and breathe; where beetling crags start out at pencil's touch, and make you think, in spite of reason, "what if they should fall!" where cascades tumble over rocky cliffs, and dash their mimic spray,

and whirl and foam, and—everything but *roar;* of warm Italian skies that seem to breathe their own soft gales, all glowing on the canvas! He knows not of the gorgeous dyes of the deep forest, that Raphael could not paint. His art might dash the mimic colors on; it could not make those colors fade, and glow, and melt, and blend, each with its sister tinge; nor keep them changing there, through every tint and shade of colored light!

Over the old log-fence that borders on the wood, the thorny barberry's clustering corals hang. Amid the tangled wild-grass of the marsh, that crackles under foot, are strewn the bright red cranberries, all candied now with frost. Deep in the vale, the dark green cedars make a gloomy shade, and on the hills, the feathery pines are sighing in the wind. Round that old tree, whose leaning trunk is mirrored in the stream, the grape vine clings, and pendent from a limb, its summer's growth is swinging to and fro, all clad in scarlet.

By the babbling brook, the willows wave in yellow robes, their garb of gray thrown by; the silver of the poplar has somehow got a stain. The Sumac,* too, is taking on a tinge of red to day; to-morrow 'twill be orange; the Maples shine in deepest crimson now, and now in brilliant yellow, while the kingly Oak, puts off his summer dress, for robes of deep, rich brown. These are the sunset glories of the waning year.

It would seem, in blending thus her splendors in one gorgeous hour, as if she vied with evening's western sky, that gathers at its verge, the pearl and gold of morning, noon's warm and yellow light, its own inimitable hues, emulous to prove that saying true, "the last, still loveliest." So will it be in life's last going down, when memory's soft but radiant

* Pronounced Shumak.

light shall shine aslant the hills and vales and plains of other days; so will gather then, the privileges high, the hopes, the joys, the blessings of the past; so gild a moment, life's evening sky; then fading, flitting, hide behind the cold, gray cloud of night and death!

"The melancholy days are come, the saddest of the year."

The glittering garland with which the forests were decked,

"The floating fringe on the Maple's crest,
That rivals the Tulip's crimson vest;"

the willow's narrow leaves, on which the yellow sunlight loved to linger so, have all faded away into the *dead-leaf* tinge of latest autumn.

Now November's stormy voice is heard, as it comes sighing and moaning through the woods, as if fearful to break the frail tenure by which the withered leaves cling to their parent boughs; now, in surly mood, whirling hither and thither their skeleton-frames, in mockery.

The democratic blackbirds, a rabble rout, hold a clamorous council of flight, in some tall elm; beneath, the red-coated Oriole, the sparrow with its gray hood, and the chuckle-headed Martin, a motley multitude, are perched on stump and stone, while a bright-winged Jay, on a rocking bough near by, is spokesman; the feathers in his Highland cap nod jantily, as he proceeds; listen to him. From the rustling of wings, one would think he had produced quite a sensation; he is evidently talking of the "hard times," of frosts and chills; he has indeed selected a subject which they can all *feel*.

Now a suppressed twitter or low chirp seems a call for the question; the burst of Babel-sounds which follow, shows it carried by acclamation. Up go the swallows in a cloud; away ride the sparrows on the billowy air. The robin and

his wife hear the rushing sound of wings, and leave their old homestead in the thicket; the quaker-wren, with its little blue feet, peeps out from the hole in the wall, as the frost creeps in; too hoo! too hoo! resounds from the hollow oak tree, as the monkish owl wraps still closer about his ears, the russet muffler which he always wears, winter and summer.

"Then tribe after tribe, with its leader fair,
Sweeps off, thro' the fathomless depths of air;
Some spread o'er the waters a daring wing,
In the isles of the southern sea to sing."

The little hollows are heaped up with the dead leaves; they answer to the timid rabbit's tread, as it vainly looks for a clover leaf or a blade of green grass; they answer to the eddying gust, and the slow footstep of the thoughtful man. That hoarse, husky tone! That low rustle, who has not heard it, and hearing, been, for the moment, wiser, though perhaps sadder? The twilight is gradually settling into the deep darkness of night; night of the year! Now winter flings over the seeming dead, a snowy shroud, and all is cold and desolate; but there's life beneath that robe, which the voice of the next year's morning will call forth to light and beauty again, when the green forest-tops thrill once more to carol and song; and the gushing rills dance again to a tune of their own. Who, with winter's language sounding in his ear, thinks death a sleep that knows no waking?

Then amid the mountains of the snowy north, there is music; solemn strains, befitting Nature's melancholy mood. The needle-shaped foliage of the pines, presents a thousand living harp-strings, to every breeze and gust of the stormy time; such music has the evening of the year.

Of such a scene, the ploughman-poet, Burns, once said:— "This is my best season for devotion; my mind is wrapped

up in a kind of enthusiasm to Him, 'who walks on the wings of the wind.' "

"Still sing the GOD OF SEASONS, as they roll.
For me, when I forget the darling theme,
Whether the blossom blows, the summer ray
Russets the plain, inspiring Autumn gleams,
Or Winter rises in the blackening east,
Be my tongue mute, my Fancy paint no more,
And, dead to joy, forget my heart to beat!"

CHAPTER VII.

God talks with man through nature—The convenient "it"—The eye—The two worlds—What an idea is—What thought is—Man a social being—Language the link—The brute creation.

Thus reader, we have learned a few of the lessons which this beautiful world gives out. School-mates together, pupils of Nature, we have listened together to her voice, and together gazed upon the Deity-penned page; but while we do so no more, in company, let me remind you, that though we have ceased to listen, Nature has not ceased to *teach*; that every ray of light, as it meets the eye, every wave of air, as it dashes against the ear-drum, brings some new lesson to the thoughtful mind.

The flower of the valley and the central sun; the beating heart and the babbling brook; the morning song and the midnight hush; the comet's glare and the snow-drop's ray, all,

all have language. Spring whispers of life, as she wreathes the earth with a garland, and Autumn sings a song;

> "Let us never forget to our dying day,
> The tone or the burden of her lay,—
> 'Passing away! passing away'!"

> "The poor Indian, whose untutored mind
> Sees God in clouds, and hears Him in the wind;"

the Indian, his cradle a canoe, his nurse the restless waters, the winds and waving woods his lullaby; from infancy to age, companion, lover, child of Nature, he needs not the convenient "it," of civilized and (christian?) life; with him, *it* never rains, *it* never thunders, but the Great Spirit, He

> "Whose body nature is—God the soul!"

He it is, who talks with man, in brooks and winds and flowers; "*He* glows in the stars and blossoms in the trees;" the thunder is *His* still, small voice;" the cataract,—

> "a light wave,
> That breaks, and whispers of its Maker's might!"

Nature then, is God's own book, and Nature's LANGUAGE, His.

The eyes of the poor lad seeking for tortoise-eggs, sparkle with joy, if after many efforts, he can thrust his little hand so far into the sand, as only to reach *one*, for he knows that the contents of the nest will follow, like beads upon a string. It is so in the acquisition of knowledge. The great Author and source of science never constituted a hermit-truth, any more than He created a flower, a man, or a world, without relations and dependencies. Every truth, every fact, is always connected with some *other* truth, some *other* fact, and the business of life, is not to forge the chain or weld the links, but simply *to draw upon it*.

Now in the view which has been taken of Inanimate Nature, I have only put into your hand a *link* or two, of the mighty chain, nothing more; and in committing it to your charge, just let me bid you in sailor's phrase, "Pull away! Pull away!"

How inimitable is the eye! How exquisite its sense! Within those wondrous crystal walls, far back, a magic curtain* hangs, of wondrous texture—suspended there by God! No odor ever enters there; if so, not half so wonderful its power; for we can *see* the flower as day by day it wastes away in floating fragrance. That is a silent hall; no sound is there; then were the mystery less; for one can *feel* the blown flute thrill with music, the organ tremble with its own deep tones, and *see* the struck bell quiver. Not so with light; speeding with more than arrow's flight, it ripples not the air; it pierces glass, yet leaves no trace behind; still flying on, it seeks the eye, that earthly dome where it delights to dwell; the opening portal bids it in; the glowing canvas welcomes its approach!

You look up, and the broad, blue sky with its bright host, is mirrored there; the evening clouds go by, like ships at sea, and they are pictured there, and sailing still, and yet they never near the curtain's edge! The green valley, the dim mountain, the waving woods are there, green and dim and waving still! From deepest red to faintest violet, no ray this subtile shadow flings, is lost. The speaking countenance of a friend—the smile, the thought-light, the care-cloud flitting over, are painted there, smiling and flitting too!

Such is the organ of sight; were the sensible images of which I have been speaking, the *only* images; were there no connection between the material without and the immaterial

*The retina, an expansion of the optic nerve.

within; had mind no existence, and thought no world of its own, still we should ever admire the mirror-eye as a specimen of inimitable skill, and the mirrored world as surpassingly beautiful; but reader, there *are* other images, there *is* a mind, and such a world, and such a connection.

Suppose that the countenance of that dear friend, which was so accurately pictured upon the retina of your eye, "should be changed," as yours and mine will be, and be borne away. The faithful copy would be no longer there; other forms would occupy the curtain that he had so often filled; but could you not see him yet? Close your eyes; the face—the mouth—the smooth brow—the hair,—so very like! the smile, just as ever! Yes, the voice too, as he calls your name. There he stands before you, as clearly seen as when health mantled his cheek and thought lighted his eye! Years glide away, but when you will, the dead is with you.

Ah! This is that *other* image! No longer sensible and material, it has become a mental and immaterial idea* now; a mere sensation upon the eye at first; next, mind perceived and stamped it as its own; then memory seized and fixed it there, and now by recollection you can bring it up and see it still! 'Tis thus the mind is peopled from without; thus they come thronging in, that make the inner world; thus eye and ear are antechambers to the mind, where these sensations come, but wait not long, but quick perceived, become the property of mind—your own.

What treasures such as these can youth acquire, and then when age comes on, when eyes are dimmed and ears grow dull, the winter hours of life will sweetly pass, in working up the harvest that you gathered in; you coin them, then,

*An idea is an image; generally applied to images of the mind.

anew; you put your image on them, and your name; you shape them in new forms of beauty; analyze, compare. This, *this* is THINKING. Then when you send them forth, they are *your own*, and there is a pleasure in such a thought.

What a *world* of ideas should a person acquire during a single year; what vast material for thought! You perceive that ideas and actual thinking are entirely distinct; as much so, as the rough trunk of mahogany, and the skill which is employed and increased in fashioning the stubborn wood into the elegantly carved and polished sofa. Dr. Webster's dictionary contains a vast number of ideas or their representatives, but who ever imagines, for a moment that it is a thinking being? Then there is another thing: in the exercise of your mental powers, you are constantly strengthening and developing them; every effort which you make adds to your ability, and I never heard of a sane man who lived so long that there was no farther improvement to be made, no new ideas to be acquired. Every individual possesses, or *should* possess, a treasure of his own, whose value he is constantly increasing, either by refining what is already amassed, or by accumulating. The wisest man in our world, would make but a poor figure, if, relying upon his own resources, he should cast off the social bond. A common interest unites men in neighborhoods and nations; a consciousness of individual ignorance and weakness cements that bond; every person, no matter how humble the sphere may be, in which he moves, contributes something to the common treasure; and thus, though no stockholder in this mental bank could succeed alone, yet by uniting, all may pass along through life, if not without difficulty and danger, at least, in some degree, prepared to avert the one and obviate the other; and this is effected by the interchange of thought.

How can this desirable end be attained? That internal world of yours, is concealed from my gaze, locked in the hidden recesses of your own bosom. The key! the key! What power can throw open the portals of this new creation? Doubtless you have anticipated the reply; *language* is this mental key. Whatever thing extrinsic, can impress the senses of an animate being, is language.

How important then, is the relation which language sustains, to the welfare and happiness, not of man only, but of a large portion of the animal creation; for who can doubt that many of the inferior animals are susceptible of ideas; that they do receive them day by day; that they are somehow retained in the animal life or spirit, or by whatever term you may please to designate it; that at a subsequent period they are recalled or come unbidden, no matter which; that they are communicated to their companions by gesture or sound, and that these communications are evidently understood and answered?

No one who has merely cast a glance now and then, at the dog or the chickens, can for a moment question the existence of these facts; nevertheless it may appear strange, to you, that I speak of the *language* of brutes, yes of the very insects; but it would be a matter of surprise to me, if, while I am introducing facts that may serve to elucidate this truth, you yourself could not adduce others within your own observation, which would be equally apposite and conclusive.

How new and noble the aspect which animated nature would then present; a talking multitude of happy beings, a world of mutual intelligence! And though, only an occasional passage in these diversified dialects would be intelligible, yet to the thoughtful mind, it would open a glorious field for long and delightful contemplation. Then, were our senses more acute, and our knowledge of the works of Deity

more extensive, we should never make the complaint so often uttered, "*I feel lonely,*" but "at the farthest verge of the green earth," we should be constantly engaged in succouring those whose little organs proclaimed them in distress; in rejoicing with the creature that *hums* his pleasures, and in listening to the thoughts (if thoughts they have) of the inferior animals, as they chirp, warble or tick them forth.

Then the desert and the solitary place would be transformed into the resort of thronging thousands, and rendered vocal with "a boundless song."

From the bee that beats his reveille* within the spacious cup (befitting orchestre†) of the dew-gem'd Hollyhock, to the hollow roar of the lion, as it reverberates along the arid plains of his native wilds; throughout the whole diapason‡ of the animate creation, the devout listener would hear one universal hymn to the great source of light and life. How beautifully true are the words of the poet:

> "The loneliest path, by mortal seldom trod,
> The crowded city, all is full of God!"

* The beat of drum at daybreak; pronounced re-vel-ya.
† Place appropriated to musicians.
‡ That which includes all the tones.

PART SECOND.

INSTINCT, INTELLIGENCE AND REASON.

CHAPTER I.

What we owe to Nature—Brutes have language—Brutes have ideas—What they would be without language—The scale of being—Instinct in the vegetable world—Instinct and intelligence in the animal kingdom—Illustrations.

You have been, like Mrs. Hemans' Edith,

"A watcher of the clouds and of the stars,
Beneath the adoring silence of the night;
And a glad wanderer with the happy streams,
Whose laughter fills the mountains!"

and if, like her, you are ready to exclaim, "Oh! to hear their blessed sounds again!" then am I quite repaid for all my toil. Many a thought that steals into the mind, as if some shadowy being had whispered soft and low into the ear, is of Nature's own bestowing; but shall we linger longer here, or turning to the *animate* world, contemplate language as employed by birds, beasts and insects, in communicating their ideas to one another? Have *they* language, too? Yes, reader, even *brutes* have language; abandon the notion, if you entertain it, that the varied voices from the field and the forest, the carol of joy, the cry of fear, the call of love, or the discordant tones of anger, are an idle, unmeaning jargon, the mere clank of engines; reject as equally unfounded, the

opinion which is frequently expressed, that animals are ma chines, musical instruments, if you please, whence these sounds are elicited by some external skill, while they themselves, like the flute are unconscious of the music thus produced. Discard them both; they are unworthy of you.

There is nothing in the physical structure of many individuals in the brute creation, which presents the slightest objection to their having ideas, but on the contrary, much to confirm such an opinion; there is nothing in the relations which they sustain to each other, or the world around them, which precludes the exercise of thought, or something verily like it; of reason, or something which closely resembles it; but on the contrary, much that renders such capabilities highly necessary to their happiness, if not absolutely essential to their continued existence.

Entertaining suchviews, I do not however, attribute to the dog orthe insect, a human mind, but a *brute intelligence*, and the difference between these is as strongly marked, as the difference between the animals themselves; as distinct as the *sphere* of a dog is from that of a man, or as the *ends* which they are respectively designed to compass; as distinct, as a being, to whose susceptibility of improvement, we know *no* limit; and an existence, upon which the sentence is pronounced: "hitherto shalt thou come, and no farther;" as distinct as a *mind*, whose duration, at whatever period in its existence you contemplate it, is yet, almost all in the future, and a *power of knowing*, which will perish with the physical frame, for whose guidance merely, it was created.

No, that being, into whose nostrils 'God breathed the breath of life, and he became a *living soul*,' must be forever distinguished from his fellow tenants of the earth, both by creation and by destiny. The brute creation are exactly fitted, in

every respect, for their stations, and it is as illogical to conclude, that, because they have ideas, and something like thought and something like reflection, they must have *human* minds, as it would be to infer, that, as man is possessed of an immortal spirit, he must have an *angelic* one. Upon the ground of adaptation then, I might safely base this view, without entertaining any apprehension, even the slightest, that you will so grossly mistake me, when I talk of a thinking or a reasoning brute, as to suppose that I mean human thought or human reason, when I only refer to that, whatever it may be, which *corresponds* to these powers in the human mind, and which, as I have before remarked, differ precisely as the beings that possess them.

From these susceptibilities and powers, springs the necessity for language among brutes; a] necessity equally peremptory with that which renders it so indispensable to the happiness of man, and of which, if you deprive him, from a social, he would be transformed into a solitary being; as he would know nothing of the sufferings or pleasures of others, so he would be a stranger to sympathy; all the better feelings of his nature would lie dormant, and he would wander about, the unconscious, miserable possessor of a *world* of happiness, which language only, could reveal.

Deprive *brutes* of language, and the consequences would be no less disastrous to them, no less fatal to their well-being.

Entertaining the opinions which I have expressed, when you listen to the bird on the bough and the bird in the bush, uttering their notes of joy; when the Bobilink rings a merry peal from the meadow, and the cricket's "cree-cree, cree-cree," issues from the grass, as if they were vying with one another, which should express *most*, of the joy of its little heart, and then, all at once, birds and insects burst forth

together; when the faithful dog meets you at the gate, "with bark and bound;" when the cat rubs backward and forward against your foot, purring all the while, her pleasure; when, the day's perils escaped, the day's wanderings done, you hear the happy home-note of the chickens, as they gather close under the brooding wing; when you hear the lambs of the folded flock, bleat now and then, as if in some happy dream; when even the swine salutes you with a complacent "ough," from his bed of straw, how can you help exclaiming, "what a happy world this is, after all!"

Turning from the vegetable world, we are about to contemplate animated nature, opening up a new, and if possible, nobler field for admiration; in brilliancy of plumage, in symmetry of form, in elegance of movement, in nobleness of mien, in power of voice, and in melody of song. The language of the flowers was a *lovely* language, but it was not *their own;* they were, as if so many fair characters which God had traced, and of which He gives a new and beautiful edition each returning year. But *animals* have a language of their own; now elevated with joy, now tremulous with sorrow, now tuned by care; a language, that, more faithful than the painter's canvas, takes on every shade of thought, every tinge of emotion, and the deep, live coloring of passion.

The questions may arise in your mind, "what belongs peculiarly to the animate world, whence springs the necessity for a medium of communication? Is it a difference in the nature of the living principle, or is it, that they possess the power of locomotion?" To these inquiries, I answer in the negative. The principle of life, so far as we are able to comprehend it, is the same in the vegetable, that it is in the animal kingdom. In the one, we have the coral and the sponge attached to rocks; in the other, the Gulf-weed and the Tape-

grass sailing from shore to shore, wafted by winds and waves. In the one, we see the hydra or the leech propagated by slips or cuttings; in the other, we observe the russet grafted upon the greening, and the peach and the quince deriving their nourishment from the same root. In the one, the pigeon flies from clime to clime, and the herring swims from the Arctic ocean to the line; in the other, the strawberry travels from field to field. In the one, we see the beaver, now felling timber upon the land, and now catching fish in the water; in the other, we behold the rush flourishing in the swamp, or thriving upon the hill. In the one, the blood rolls its tide of life through the veins; in the other, the sap courses to every slender twig and swelling bud. Impede the circulation in the one, and life is destroyed; girdle the tallest oak in the other, and it withers and dies. Air is essential to life in the one, so it is in the other. It is not here, then, that we are to look for that peculiarity, which renders language necessary to the brute as a social being; if it cannot be found, my labor is more than half done; if it is all an idle fancy, and brutes possess nothing upon which to predicate language, then it were better, omitting the second part of this little book, to pass on directly to the third. But let us linger here, and determine, if we can, what this peculiarity is; Linnæus, the eminent naturalist, in classifying the works of nature, remarked, "stones grow, vegetables grow and live, animals grow, live and feel." However correct this may be, it is not sufficiently definite for my present purpose; and in proposing another view, allow me to direct your attention to a fact or two. Deprive a man of his eyes or amputate his limbs, and you take from him the power of seeing or of walking; so, if you deprive a living being of the nerves or the brain, as the former are the organs of sensation, and the latter is the seat

of intelligence, we may safely infer, that with the one or the other, the corresponding power of knowing or feeling, is gone also. When you pluck a rose from its stem, you do not imagine that it suffers pain from the disrupture; how can it? Vegetables are destitute of nerves; but wound a bird and you see its little frame writhe with anguish; the bird possesses the organs of sensation. We never attribute to the lowest order of animals anything like intelligence, while it is with an *ill* grace, that we can deny its possession to the elephant, the dog, or the horse; these animals have a cerebral organization, or a brain.

Something called *instinct* characterizes every living thing; sensation distinguishes the animal from the vegetable; intelligence distinguishes some animals from others; and the possession of all these, with reason and a living soul, renders man what he is—lord of this lower world, and "the noblest work of God."

Vegetables have instinct;

Nervous* Animals have instinct and sensation;

Cerebral† animals have instinct, sensation and intelligence;

Man possesses instinct, sensation, intelligence, reason, and a LIVING SOUL.

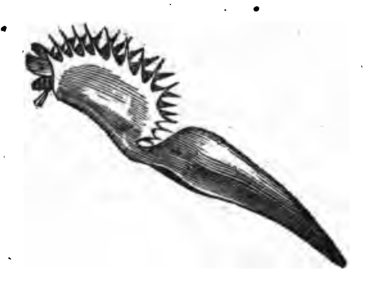
Thus having placed distinctly before you, the classification which I have made, let us examine the nature of instinct, and learn how far the actions of the brute creation are attributable to its promptings; then determine the extent of intelligence in animals, after which we can confidently talk of an intelligible language among brutes. First, then, I will speak of instinct.

When corn is planted in the field, or seeds sown in the gar-

* Having nerves. † Those animals possessing a brain.

den, how do you know that the latter will not spring up in the path, or that the former, making a subterranean journey, will not appear in an adjoining field, to bless the wondering eyes of some indolent neighbor? Indeed, what assurance have you, that they will come up at all? You answer, "observation teaches;" but did you ever think *why* this is so? Did it never occur to you as something strange, that among the numberless seeds, that each returning year calls forth to life, one should not, now and then, send its fibrous roots into the air, while the branches should be groping their gloomy way down into the earth? Why should there not? Within the tiniest seed's thin shell, the radicle and plume, twin messengers of life, lie cradled now; the former bursts its prison first, and travels down in quest of moisture and a fastening for the future plant; the latter, upward bound, seeks air and light.

There is the Dionæa muscipula, or Venus' fly-trap, that terror of the insect tribe. Each leaf is furnished with a



pair of jaws, invitingly extended, and baited too, with a liquid which attracts the unwary wanderer, but no sooner than he alights, it closes with a spring, and the hapless fly becomes a prisoner for life; the relentless leaf never opening, till the victim ceasing to struggle, expires. True, we are ignorant

of the precise manner in which the plant is benefited by these captures; but as animal life is frequently sustained by the destruction of vegetables, we do not question, that, in this instance, at least, the favor is reciprocated.

The potato, that lies forgotten among the rubbish of an old box in the cellar, sends out its pale, slender vine, that clings upon the unplaned boards that compose its prison, till it finds a fissure; emerging thence, it creeps slowly away towards that distant window, that veiled with cobwebs and dimmed with the splashing of the last shower, admits a feeble ray through its half-transparent panes. Did you ever think what guided it on its mysterious way? Yes, you knew it was creeping after light. Its clear, waxen stem betokens the absence of the "father of colors," and light it must have; you saw, how as it basked beneath that glimmering beam, each raveled leaf took on a tinge of green.

By the way, reader, what a language does that plant speak to you and me! Like it, we are living beings and prisoners of hope; like it, we are enveloped in darkness; a light has shone upon *us* too, and *we* see it through "a glass darkly;" like it, how should we emerge from the gloom, and follow after the benign ray, that flings its softened lustre in, upon this depraved world! To return, what was it, but a principle of life that impelled the plant, thus to seek that which was essential to its health, if not to its existence, and what is this principle but instinct?

Plant a strawberry vine in the sand, and will it remain there to wither and die? Examine it after a few days, and you will find its little runners traveling off, in the direction of the nearest soil proper for its nourishments. The tree removed from its native swamp to the parched upland, will not yield its life without an effort; with no guide but that Being

who spoke it into existence, filled it with life and clothed it with beauty, its roots, faithful to their trust, amid the darkness of their prison, will send out a thousand fibres towards the neighboring rivulet or spring. Set a root of the Orchis in your garden and mark the spot. Let a few years elapse before you seek it, and you will find that the strange thing has played you false; no vestige of it can be discovered, but clamber over your neighbor's fence, travel a quarter of a mile, and you may chance to find the truant flourishing in the soil of a new possessor. It had made a toilsome journey hither, all for its little life, abandoning the old and withered root from time to time, it had bundled off to a new and vigorous one, springing up beside the old habitation; like a tenant who resides, now in this dwelling, now in that, leaving each as the decaying timbers and broken roof, threaten to tumble upon his head!

The bulbous root is peculiarly adapted to resist the effects of drought; transplant such a root to some moist spot, and instead of remaining round and plump as a London alderman, it will become lean, lank and long as a half-starved friar; but never fear; it is not about to die. As in a dry soil, to the bulbous root, the plant owes its preservation, so in a marsh, the same formation would prove its sure destruction, actually drowning it; and for this reason, the root instinctively elongates, becomes fibrous, adapts itself to the new situation, and lives on, verdant as ever.

The wood-sorrel that folds its leaves from the coming storm; the yellow flowers that look cheerfully forth upon the rising sun, turn to the south at noon, and catch the last beams of the closing day; the sensitive fern that shrinks from the approaching hand; the Evening Primrose, whose little signal gun announces the approach of night, as one by one, its pale flowers

fly open to receive the falling dew; the water-lily that contracts its leaves, as it rests gently upon the crystal couch; the lazy Goatsbeard, that shuts its eyes at noon, as if to sleep, and the chickweed, that wraps the virgin flower in its green mantle, reminding you to make the umbrella your companion for that day, are all directed by INSTINCT, that principle, which, however varied the acts to which it impels, is admirably calculated to preserve life in the vegetable world. Take away this instinct, and the day which dawned upon a thousand forms of almost breathing beauty, looking forth from hill-top and vale, would close upon a mournful scene of desolation and death.

Let us now observe the action of instinct in the animal world. I recollect, when a boy, of spying a robin's nest in an old apple tree. With much scrambling and kicking, I succeeded in getting a foothold on some of the spreading boughs, and eagerly reached up, to take a peep at the interior of the nest. At the imminent hazard of life or limb, so much was I taken by surprise, four young robins, opened their bills all together, and developing their capacious yellow throats, set up a chorus that first startled, then astounded me. Just at this instant, the alarm-note of the old robin, sounding loud and clear, close by me, added not a little to my fear, and trembling in every joint, I heartily wished myself out of the predatory excursion, and safe at home. The little family had but just escaped from the shell, and this movement was one of the first acts of life; without instruction or experience, and doubtless without a knowledge of the cause or the result, they placed themselves in the only position in which they could possibly receive nourishment from the parent. This act was an *instinctive* one; of the same nature with that performed by the Geranium that turns its leaves towards the un-

curtained window, or by the root that seeks its proper soil; of the same nature with that put forth by the infant, which throws out its little hands, when in danger of falling from the arms of a careless nurse; an act which is prompted by no apprehension of danger, no knowledge of any means by which it might be averted. In the three instances mentioned, the act is essentially the same; equally unintelligent, and alike calculated to preserve the life, and health of the individual.

CHAPTER II.

The duck—Complex nature of sucking, swallowing and respiration—Definition of instinct—not sentient—not intelligent—Examples—The office of intelligence—its relation to instinct—Few animals destroy life wantonly—The skill of birds in nidification—Color of the eggs—Individual and generic instincts.

The patient hen sets for weeks upon duck's eggs, unconscious of the anxiety which her perverse brood will occasion; the little web-feet come forth and waddle away to the nearest pool with all possible dispatch. The foster-mother, with drooping wings, runs hither and thither upon the bank, clucking her mingled notes of love and fear; but the heedless objects of her solicitude, diving and paddling about with notable zeal, pay not the slightest attention to her exhortations and entreaties. Fitted by nature for a sea-faring life, instinct directs them to their native element, and by instinct they swim. Of precisely the same nature, is the act of sucking and swal-

lowing, so readily performed by the new-born infant; indeed, evincing a skill, that all the experience of subsequent life, could not increase, or even attain; a process which calls into action, thirty pairs of muscles at every draught. In this connection, I will mention respiration or breathing, also; what instructor could initiate the aptest pupil into the mystery, so that he could bring into operation all the muscles necessary to this process, but that great Teacher, who, as He has bestowed upon organized bodies the boon of life, has also given them instinct for its preservation?

Numerous examples might be introduced, to illustrate still farther, the universality of instinct, as possessed by all living things, and its uniformity, as ever acting for good. But they are above, beneath and on every side of you; and to him, who studies the works of nature, animate or inanimate, they will constantly present themselves, extorting, even from the unwilling heart, an acknowledgement of the unbounded benevolence of that Being, by whom the worlds were made.

Instinct, then, is "the operation of the principle of organized life, by the exercise of certain natural powers, directed to the present good or future welfare of the individual." Where life is, there is instinct; within the secret chamber of the buried seed, it fans the slumbering spark into a flame; it guides unerringly the descending root, and accompanies the ascending stem; it folds the tender leaf from the frosty night; it opens the painted flower to the genial ray, and when the chill winds whistle around the shivering tree, it is there still!

Instinct is neither sentient nor intelligent; were it the latter, it might profit by experience; if the former, it might writhe with pain; but plants possess neither sensation nor knowledge, and yet plants have instinct; perfect at first, it is

not susceptible of improvement; unerring in its nature, wherever seen, you are compelled to exclaim with the poet,

> "And Reason raise o'er instinct as you can,
> In this 'tis God directs, in that 'tis man."

Finally—contemplating instinct in connection with intelligence and reason, you will observe that it is a natural power, fully developed at first, while the two latter are yet feeble, requiring time and cultivation, to arrive at maturity, so that the young of very many animals must perish, without the aid of instinct; hence the providence of the bee, the secretions in the udder of the cow, and the breasts of the mother, and the hunting excursions of the parent bird. Even then, all these promptings of instinct or affection would be unavailing, did not the calf *instinctively* suck, the bird gape and the insect devour. In this view, the peculiar office of instinct is antecedent to that, either of intelligence or reason; it fills, as if the place of a guardian to the new-born creature, while the latter, as minors, are unable to act for themselves. Hence it follows, that though instinct continues to exercise its functions during the whole life of the brute or the man, yet it never discharges a duty which intelligence or reason is capacitated to perform. Thus the infant throws out its arms when falling; the man makes precisely the same movement when in similar circumstances; but so far from its being pure instinct, *then*, this essential difference is obvious; the man both apprehends the danger, and *intelligently* adopts this expedient to avert it. Here instinct may be said to act in concert with intelligence, for the accomplishment of the same object.

In the view which I have given of the subject, you can easily distinguish between the impulsion of instinct and the operation of intelligence; the former may act alone as well as the latter; the one executes what the other whispers as neces,

sary, but in no instance are they so combined in their action, as to exhibit a modification of either. Thus instinct teaches us that the physical system requires food, and we intelligently cast about to procure it; we lay plans; we labor assiduously, but we do it all *intelligently*. Instinct induces birds to continue their species, and impresses the necessity of a habitation, but intelligence is employed in the actual construction of their curious homes; in selecting materials; in adapting its form to circumstances. Break one of the twigs that support the half-built nest, and the cunning architects will bind it more securely, to those which remain. Deprive them of down, and they levy upon your cotton; rob them of hair, but take care of your silk! Remove the bird from a tropical to a temperate climate; instinct impels it to the preservation of life, but *intelligence* lines the nest with another layer of down, and adds another inch to its depth.

Few are the animals, save man, that wantonly destroy the life and happiness of their fellows. True, the eagle pounces upon the serpent, and bears it away in its talons; the wily snake springs upon the sparrow in the hedge; the sparrow devours the insect or the worm; but they all act in obedience to the law of instinct, which whispers, "life, life!" The scale of being is accurately balanced; the eagle rears its solitary or twin young; the snake has a more numerous progeny; the sparrow brings up quite a family, while the insect produces myriads at a birth. Turn where you will, the proportion is accurately adjusted.

Instinct impels, not merely to the welfare of the individual, but to the preservation of the race. Hence, though the eagle may destroy its companion, it is not necessarily an instinctive act; famine may compel the ship-wrecked mariners to cast lots for a sacrifice, to the common life; here is the triumph of

the individual over the *generic* instinct; but still, how mighty the struggle; with what horror and loathing, do the miserable men feed upon the flesh of their fellow! Why? For no other reason, than that the generic instinct rebels. The fact that some tribes are cannibals, has no bearing upon this principle, for human nature may become so lost to every monition of instinct, every feeling of affection, that the mother will forget even her own child.

The peculiar skill manifested by the bird or the beast in the construction of its lair or its nest is in exact proportion to the liability and danger of detection, and the ability of the owner to protect it. Thus the eggs of the Kingfisher and Woodpecker are of a brilliant white, and therefore are concealed in holes, as they would otherwise be inevitably discovered and devoured by some hungry bird or prowling quadruped. The swallows and wrens lay eggs of the same treacherous color, but so small are the apertures to their nests, that an enemy must be extremely impudent to approach so near as to catch a glimpse of them. The eggs of the pigeon and petrel are also white, but are seldom left, while others are carefully covered and watched. The sparrow, less cautious, deposites its pale, green eggs in the grass or reeds, but many a prying boy in vain has looked in the very bush which contains them. The dappled, gray eggs of the lark, the quail and the thrush, resemble so nearly, the materials of the nests and the surrounding stubble, in color, that they frequently escape the eye, although it actually rests upon them, while the eagle that fears naught from its winged fellows; that shrinks not from a conflict with a wild-cat or a man, fearlessly deposites its eggs upon a platform of dry limbs, built upon the rocky cliff.

It is unnecessary to multiply examples upon this point, for

a little observation will teach you that the position, the form, and the general construction of the nests of birds is determined by the color of the eggs as brighter, or fainter, and the habits and number of those animals, whose individual instinct they have the greatest reason to fear; I do not say the habits or number of their *enemies*. You are not to suppose that in the construction of their curious homes, birds are guided altogether by intelligence, but that instinct acts in concert with its more accomplished sister, for the promotion of the same object; viz: the well-being of the creature.

Their offices may perhaps be expressed in the following manner: without instinct, the nest would never be begun; without intelligence, it would never be completed; without instinct, the parent bird would not brood many a long day and gloomy night, famished and weary, over the eggs; without intelligence and affection, it would have neither the disposition nor the ability, to supply the wants of its helpless progeny.

CHAPTER III.

Architectural skill of birds—Weavers, masons and basket-makers—Hindostan Swallow—Tailor-bird's nest—Baltimore Starling—Martin—Hint to the hypercritical—The Exeter 'Change Elephant—The Turkish wasp—Bushy Park—The canine race—Reasoning of a dog—Ulysses' dog—The squirrel turned sailor.

Who ever thinks of the architectural skill of certain birds and quadrupeds, without commingled emotions of wonder and admiration? Of that little eastern bird, which, to do it

justice, would prove no mean competitor, with the acknowledged "knights of the thimble." For a needle, it only has its bill; for thread, fine fibres of wood; with these it constructs a fragile nest, by sewing to a living leaf pendent from the bough, another, which it had plucked for the purpose, thus making a curious little berth, which, lined with gossamer and down, rocks in the breeze, and dances in the blast, a cradle and a dwelling.



The annexed figure will give you a correct idea of the Tailor-bird's nest. With what complacency the callow inmates look out upon the great world, as they rock all day.

The tailor is not the only mechanic among the feathered race; there are masons, and weavers, basket-makers, miners and carpenters. Among the last mentioned artisans, the ivory-billed woodpecker seems to be the very prince. The silent swamps of the Carolinas echo with oft-repeated strokes as of some distant woodsman; you look around for the cause, but no living being is in sight, save the squirrel that eyes you saucily for a moment, from a log near by, and is gone. Still you hear it; that same, incessant tap, and, at length, looking up, you discover, high on the trunk of a solid Cypress, the gaily plumed carpenter, excavating a winding cell, the destined birth-place of a *race* of carpenters, if the stealthy black snake, or inquisitive pine Martin, does not blight their

prospects, by making a breakfast of them some morning, while half-fledged truants from the nest.

The bank Swallow, with his chubby head, is a great miner. When you are passing the shelving banks of streams, or a road cut through small hills, this little bird will frequently salute you with his twitter, which resembles the noise of a cork turned in a bottle; now darting toward you so directly, that you are inclined to shield your eyes with your hand, and now in his zigzag flight, turning as swiftly away, with a suppressed "to weet, to weet," as if he had mistaken you for an acquaintance. He is amusing himself after a day of toil, and though rather amiable in his disposition, he makes sad havoc among the little winged tribes that sport for an hour, in the warm sun-beam; perhaps that note of his, "to weet," may be peculiarly significant of the amusement.

See that sand bank. Why, it is full of holes, made by these industrious little creatures. I declare, *there* is one at work this moment! How busily he plies his little bill; now sidewise, now up, now down, his long, sharp claws hold him securely as he works. If you look into one of those caves, you will find that the floor gradually ascends from the mouth, back. Why, do you think? To prevent the storm from beating, or the water from running into it! How admirably contrived! No pick-axe, no shovel, that little bill executes the whole.

A beautiful Sparrow found in Hindostan is a skilful basket-maker. It successfully eludes the snake and the monkey, by plaiting a bottle-shaped basket of long grass, separated into

apartments, and suspending it by the neck to the bough of the date-tree or acacia. Here is a representation of the nest:



Doubtless Pug's visage has often wriggled and twisted with ill-suppressed rage, and his swarthy countenance grown darker, as the retracted lips disclosed the ivory behind, when from some neighboring bough, eying this bottle with the opening at the bottom, he was forced to acknowledge, for once, his cunning outdone. But we need not travel to Hindostan for basket-makers; in the thicket of Alder bushes by the creek, among the reeds and rushes of the swamp, or in the long grass of the meadow, are the Starling, the Bullfinch and the Thrush, all of a trade.

Here is the work of a skilful weaver, the Baltimore Starling.



It is flax and wool woven into cloth; linsey-woolsey for all the world! Improved too, for it is sewed through and through with horse hair. I presume some careful woman in the neighborhood, has wondered what became of a skain or two of thread that was mysteriously missing from a number which she spread upon the grass to bleach. Doubtless the starling would tell her, if it could, that linen ready spun was very acceptable, and made excellent warp.

But the masons, a useful, hard-working class, must not be slighted. Among them, the Martin may be considered as master-builder, if we except that old millwright, the beaver. The martin is not only mason, but brick-maker. In the month of May, he arrives among us, from the fragrant groves of the sunny south. At break of day, while the folded leaves are yet wet with the dews of night, you may see him in the

newly-turned furrow, or by the brook, in quest of materials for a dwelling. Nothing comes amiss; particles of moist earth, slender twigs, bits of straws, locks of wool, are *treasures* to him; yes, more favored than the oppressed Israelites in Egypt, the *materials* are not denied him. These he skilfully works and tempers into a mortar of great tenacity, and having selected a spot for his nest, beneath the sheltering eaves of some dwelling, whose inmates are not hostile to his little plans, (I am sorry to say, that the dwelling is not unfrequently a *barn*,) he lays the foundation. No sound of trowel or hammer,

"Like a tall pine, the noiseless fabric grows;"

each rising sun shines upon the advancing work. Sometimes indeed, it falls before it hardens; and, (shall I say it?) sometimes a wanton boy rudely demolishes the little fabric with sticks and stones, but it is a labor of love, and we have hardly time to lament the martin's lot, ere the breach is repaired.

Indeed it would almost seem that sparks of that reason, which renders man the lord of this lower world, had been given to some of the inferior animals. Plans of action are theirs, which if laid by man, would have passed unquestioned, for the productions of reason; a skill in architecture and an adaptation to circumstances, which our own British fathers had scarcely attained, or at least had never exhibited, previous to the Norman conquest; a real *magnanimity*, which, if displayed by a fellow man, would have awakened in our bosoms a respect for him. All these have been termed *instinct*, a word which is too often synonymous with mystery; and to this indefinable *something*, the actions of every animal, biped, quadruped and centiped, provided it was not a *man*, have been attributed; to this something, holding that inconceivable po-

sition, just superior to the laws of matter, just below the sphere of intelligence; how correct such opinions may be, I leave with you, reader, to decide. Perhaps this book may fall into the hands of a metaphysician; one who loves to live in a mist of his own gathering; who puzzles himself sadly with *terms*. I can easily conceive how he might lose himself in an abstraction upon mind and thought, and ideas, as I have spoken of them; and how, as a partial compensation for such a loss, he might discover some shocking absurdity in these, my views; if so, I wish him much joy in his Columbus-like enterprise; but to me, the acquisition of one truth is of infinitely greater value than all this; with the farmer, a little wheat amply rewards *me* for passing a dozen bushels through the mill; one caution the thresher always gives; it applies equally well here, and so I repeat it; *"take care; don't turn too fast!"*

It is related of the celebrated Exeter 'Change elephant, that one day, while feeding upon some potatoes, one of them chanced to roll away out of his reach. After making several ineffectual attempts to recover it with his long, flexible trunk, suddenly changing his manner of operation, as if he understood the law of action and reaction, he blew it violently against the opposite wall, whence rebounding, the potato speedily shared the fate of it less roving companions. We do not suppose that this noble animal understood the philosophy of the schools, *but he acted philosophically*, brute as he was. He evinced the possession of capabilities which fitted him, not merely for a life in his native jungles, but which could even adapt him to the peculiar circumstances of a life and a prison in London.

Dr. Darwin, an eminent, but in some instances, a fanciful naturalist, tells us, that in a ramble, he saw a wasp tugging at

a fly quite as large as itself, and after many struggles to bear it off, relaxed its hold, and proceeded with Turkish dexterity, to relieve the ponderous captive of its head. This being done, it succeeded in rising with the prize, only to experience a fresh difficulty; the broad wings of the fly greatly impeded the flight of the wasp, and it again alighted to renew its surgical operations. First, it sawed off one wing, then the other, and once more seizing its victim, disappeared.

There is a park in England, which in the time of Cromwell was called Hare Park, but from the fine thorn trees in it, is now called Bushy Park. It is said that the old bucks which are kept in this enclosure, rear themselves upon their hinder legs, and entangling their horns in the low and spreading branches, shake off the coveted fruit, and then eat it at their leisure. It is a fact, well known to the *apiarist*, that bees, before sending out a colony, dispatch scouts or agents to select a suitable spot for a settlement, and shape their course according to the report of their little spies. What emigrant ever acted wiser? The dog, too, has been the hackneyed theme of eulogy, but by no means an unworthy one. Who does not remember instances of a sagacity almost incredible, of death-enduring affection and gratitude? Who ever saw a dog travel *round* the road that makes right angles, when in haste, and not rather leap the fence, and plunge into the thicket or the stream to take the hypotenuse of the triangle, thus practically demonstrating a proposition in Euclid. There is one fact on record, which is too good in itself, and too much to my purpose to be repressed in this connection. A dog that had lost his master, at length traced him to the junction of three roads. After traveling a short distance upon one of them, his keen scent testified that his master had not passed that way, so returning to the common point, he set off upon the

second branch; here, too, he was disappointed. What did he do? Return to the main road? Nothing of this. Had he possessed speech, he would have said something like the following: "My master has gone on neither the first nor second of these roads, therefore he has taken the third; but here I am, at a distance from that unlucky angle, the commencement of my trouble, but away across those fields, I see the third fork winding over the hill; I can save a trifle in time by striking across, so here I go!" Is there any thing fanciful in attributing a process like this to a brute, and as Mrs. Hemans wrote, a "lordly" one? Investigation acquaints us that this is not a solitary instance of brute logic, which Whateley himself cannot excel. There, too, is Ulysses' dog, old Argus! He asks not a line from me to perpetuate his memory, for the incident was long ago embalmed by the poet, singing, how on the return of the Grecian prince, after a long absence of twenty years, and in a beggar's garb, his faithful dog recognized him, though forgotten by his own son; but let the poet tell it:

"He knew his lord; he knew and strove to meet;
In vain he strove to crawl and lick his feet;
Yet—all he could—his tail, his ears, his eyes,
Salute his master, then, of joy, HE DIES!"

What child has not heard of the life boat of the gnat, or how the sprightly red squirrel, land lubber as he is, turns sailor, and committing his little life to a broad chip or a bit of bark, hoists his bushy sail to the wind, and glides obliquely across the wide stream?

Instinct may impel the little mariner to change his location, but intelligence fits out the bark and trims the tiny sail.

CHAPTER IV.

The church-going dog—The philosophical fox—The memory of horses—Poetical extract—The elephant—His intelligence—His gratitude—The migration of birds—Bryant's lines.

I recollect of hearing, from a credible source, of a dog that displayed an extraordinary church-going propensity, which in his bipedal companions, would have been truly commendable. Rain or shine, cloudy or clear, it mattered not, the dog might be seen closely following at his master's heels, and pacing with becoming gravity up to the well-remembered seat, beneath which he retired to meditate and muse. This at length became a source of annoyance to the master, for the mischievous children in the adjacent pew, would sometimes give Towser a pinch, or some careless man, inadvertently set foot upon his tail, at which, though rather amiable, the canine propensities of the animal would be manifested in an incipient growl from his lurking place. Then sundry juvenile tunes would be pitched; as many mothers eye the hapless owner of our hero with no doubtful glance, and the worthy clergyman look disconcerted. This state of things waxing worse and worse, became intolerable, and one sabbath morning, the master with an insidious whistle, lured Towser within his reach, and tied him securely in the barn. He fawned, whined, yelped, growled and even snarled, but it would not do, and he remained at home. Another week passed, and Sunday came again. The man went to the door—"Towser, Towser!" but no Towser appeared; he went to the shed, the barn, the stable, but no dog was visible. Puzzled at the circumstance, he wended his way to meeting, and there, by the door, sat the dog, with all the dignity of a sexton in the early

days of Connecticut, eyeing his belated master, as much as to say, "rather behind the time, this morning, sir," and in he walked to the accustomed pew. The next sabbath, and the next, the performance was reacted, until the master, amused at the intelligence of the dog, in anticipating his designs, suffered his companionship unmolested. What truant boy ever acted wiser in a course of rebellion; evading what he did not dare to meet, in remembering the day, and in fact, in adopting the only course by which he could accomplish his object; viz: to attend church? How much of memory, of judgment and of shrewdness such an act necessarily implies, I will not attempt to determine, but if this is only one of a multitude of *instincts*, I am willing that my conduct, in writing this book, in laying plans for the future and in all the varied business of life, should be attributed to one or another of the thousand and one instincts with which a man who entertains such notions, would, in the generosity of his heart, unhesitatingly bestow upon me.

Dr. Fish of Boston, tells us, that once when riding by a frozen pond, he observed a fox crossing the ice. With characteristic caution, his foxship stopped ever and anon, as if to calculate the chances for a ducking. At length he came to a spot of thin ice, more suspicious than any he had passed; here he hesitated again, put out, first his right foot, then his left, and bore gently upon the dangerous territory, being particularly careful to suffer the principal responsibility of his precious self, to rest upon the three remaining pedals, but no, the ice was superlatively thin, and would not do; any body else might venture; not he. What was to be done? Some favorite scheme of petty burglary must be sacrificed, some day-dream of plump fowls and gabbling geese must vanish into thin air, if a passage could not be effected. After thinking

a while, (for who denies that foxes think sometimes?) Reynard extended himself upon the ice at full length; and rolling over and over, actually trundled himself out of danger into comparative security, and jumping upon his feet, tripped daintily on, doubtless well pleased with the exploit. Was this instinct? Could it be the prompting of anything less than intelligence?

Who does not know that some horses, amid storm and darkness, and in the deep forest, will bear their bewildered riders safely on, without wandering from the path, provided they ever passed it before? Any *intelligent* horse will do this, for there is as wide a difference among horses in this particular, as among men, showing conclusively, that it is not the result of instinct. I never like to drive a physician's horse, within the circumference of his professional ride; for, unless you are watchful, he will make for this pair of bars, that gate, or the other shed, expressing his "how d'ye do?" to the premises, in a kind of whispered neighing; sometimes, indeed, he will refuse to move a step, and bracing himself with mulish stubbornness, turn his head over his shoulder, as if to take a retrospect of your proceedings.

The poet has happily illustrated the possession of memory by the horse, the carrier-pigeon, the dog, and even by the little bee, in the following lines:

When o'er the blasted heath the day declin'd,
And on the scath'd oak warr'd the wintry wind;
When not a distant taper's twinkling ray
Gleam'd o'er the furze to light him on his way;
When not a sheep-bell sooth'd his listening ear,
And the big rain-drops told the tempest near;
Then did the horse the homeward track descry,
The track that shunn'd his sad inquiring eye;

And win each wavering purpose to relent,
With warmth so mild, so gently violent,
That his charm'd hand the careless rein resign'd,
And doubts and terrors vanish'd from his mind.
Recal the traveler, whose alter'd form
Has borne the buffet of the mountain-storm;
And who will first his fond impatience meet?
His faithful dog's already at his feet!

* * * * *

Led by what chart, transports the timid dove,
The wreaths of conquest, or the vows of love?
Say, thro' the clouds what compass points her flight?
Monarchs have gaz'd, and nations bless'd the sight.
Pile rock on rock, bid woods and mountains rise,
Eclipse her native shades, her native skies;
'Tis vain! through ether's pathless wilds she goes,
And lights at last where all her cares repose.

* * * * * *

Hark! the bee winds her small but mellow horn,
Blithe to salute the sunny smile of morn.
O'er thymy downs she bends her busy course,
And many a stream allures her to its source.
'Tis noon, 'tis night. That eye so finely wrought,
Beyond the search of sense, the soar of thought,
Now vainly asks the scenes she left behind;
Its orb so full, its vision so confin'd!
Who guides the patient pilgrim to her cell?
Who bids her soul with conscious triumph swell?
With conscious truth retrace the mazy clue
Of varied scents, that charm'd her as she flew?
Hail MEMORY, hail! thy universal reign
Guards the least link of Being's glorious chain.

Is it a simple instinct that impels the elephant to test the strength of a bridge, which he is required to cross, before he trusts his ponderous weight to its timbers? What country lad has not risen two hours earlier than usual, lost his breakfast, and run himself breathless, to be by, when the "caravan" entered the neighboring village? And what lad has not seen the huge animal try the bridge, with one of his fore feet, until the very timbers rattled, and then shaking his broad apron-ears about, as if in doubt of its security, remain deaf, alike to entreaties and commands. Are not judgment and skill displayed in these movements, or must we add another to the list of instincts of adaptation, and call this, *a bridge instinct!* Then again, with what a memory an elephant is blessed, and what gratitude does he evince. Go into the crowded tent of a traveling menagerie, give him a piece of tobacco, and slink away into the crowd, but he knows you; his small, bright eye gleams upon you expressively; he feels insulted, and who blames him? Years may pass; that collection may be brought to your village again, and with it, the elephant. Do you think he has forgotten you? Trust it not; he remembers the tobacco-monger, the moment his eye rests upon him. Do not venture within his reach; he might consider you beneath his notice, or he might make an example of you; who knows?

Then the gratitude of this animal is as familiar as a household word. Nearly every child has heard of the enraged elephant, who (I have written *who*, but I will not change it,) as he rushed madly along, trampling every thing that opposed his progress, into the dust, removed, with maternal tenderness, a helpless infant to a place of safety, that had been left exposed by the affrighted mother. And why did he do this? Because that mother had now and then given him a handful of greens, as he passed her stall! What *man* ever recipro-

cated a favor more nobly or delicately? We can almost think the brute acquainted with the human heart.

There, too, is Columbus, that rescued his keeper from the jaws of a ferocious tiger, displaying an intelligence and affection, which, as the man himself told me, made them indissoluble friends for life; and well it might, for the idle protestations and heartless compliments of the so-called *friendships* of the world, are of small account, when compared with the attachment of one noble animal like this.

The migratory habits of certain birds and quadrupeds deserve a passing notice in this connection.

How often, in the gray of the morning or the dusk of evening, have we heard the loud "houc, houc," of the pilot goose, that thus leads on the two diverging files, following their common leader. Whither are they bound, and what their errand, think you? What whispers these ærial voyagers, that the far-lakes of the north, offer a secure retreat, alike from the inclemency of the weather, and the sure aim of the fowler? Or what induces them, with their just fledged young, to seek the balmy mildness of a southern Zone, from the coming blasts of autumn; and thus, like Logan's cuckoo, be ever "companions of the spring?" Who taught them thus to steer, from tropic to the line, through the deep, blue, star-lit depths of that upper sea? These and a hundred similar questions throng into the mind, and perhaps none of them are so easily answered, as to attribute it all directly to Him

"Who sees with equal eye as God of all,
A hero perish, or a sparrow fall."

That it is altogether instinct, seems to me highly improbable; that it is wholly the result of intelligence, I do not believe. Whether birds have a sense of which we are ignorant, as some suppose, or not, it will be readily conceded that, in ma-

ny instances, those senses with which we *are* acquainted, are astonishingly acute, in the brute creation; foretelling the approach of storms by certain actions or cries, while yet no cloud dims the visible horizon, and when nothing less than a barometer or a rheumatic could indicate it. It is well known that cats hear the movements of their prey, when the human ear can distinguish no sound; that rabbits give the alarm to burrows the most remote, by striking the earth with their little feet. So in the case of the maddened elephant, amid the discharge of fire-arms, and the crash of timbers as he raged round his prison, the voice of his keeper was heard, "Chunee, bite," and the noble animal, obedient to the command, kneeled, and a volley of balls terminated his suffering.

Birds of prey, from the acuteness of their sense of sight or smell, come from the distant woods and mountains, with unerring accuracy, to the spot where the carcass of a slaughtered animal has been deposited, so recently, that the most delicate olfactory nerves could not discover its proximity, though in an adjoining field.

This exquisite sensibility of the organs, together with instinct, impels them to seek a milder clime, while not unfrequently they seem to avail themselves of peculiar circumstances in expediting their flight, and that too, intelligently; the strong currents at the time of the equinoxes, waft them on; the height of their flight, such as to set the fowling piece at defiance; their caution in foraging when necessary; their protracted stages during the night, all seem to imply the possession of intelligence in accomplishing what instinct imposes in behalf of life. One can never think of the migration of birds, without remembering the nature-breathing lines of Bryant, to a waterfowl. Who has not read them? If *you* have not, improve the present opportunity, and whether

young or old, gay or grave, you may, if you will, be the better for it.

Whither, midst falling dew,
While glow the heavens with the last steps of day,
Far, through their rosy depths, dost thou pursue
Thy solitary way?

Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As, darkly painted on the crimson sky,
Thy figure floats along.

Seek'st thou the plashy brink
Of weedy lake, or marge of river wide,
Or where the rocking billows rise and sink
On the chafed ocean-side?

There is a Power whose care
Teaches thy way along that pathless coast—
The desert and illimitable air—
Lone wandering, but not lost.

All day thy wings have fanned,
At that far height, the cold thin atmosphere,
Yet stoop not, weary, to the welcome land,
Though the dark night is near.

And soon that toil shall end,
Soon shalt thou find a summer home, and rest
And scream among thy fellows; reeds shall bend
Soon o'er thy sheltered nest.

Thou'rt gone—the abyss of heaven
Hath swallowed up thy form; yet on my heart
Deeply hath sunk the lesson thou hast given,
And shall not soon depart.

He, who, from zone to zone,
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

CHAPTER V.

The model society of the hive-bee—The Wasp—The Ant—The Ant-lion—The land crab—General inferences—Conclusion.

Who has not spent many a bright summer's morning in watching the proceedings of the hive bee? When the gates of the populous city are thrown open, and the hum of the multitude rises on the still air, take your station near the city; now a troop of laborers come struggling out; now a band laden with the sweets of the field, blocks up the entrance; and now, all is clear again. Hark, that low buzz! There comes a funeral procession; see them bearing off the little corpse of a companion; now a posse of carpenters are repairing some of the public works. What now? Here come workers, builders and nurses, elbowing and crowding one another, with true city politeness. See that! One of them is almost crushed; they should summon the police; their exquisite sense foretells the approach of rain, and they are hastening to shelter.

But could you obtain a pass port into the wondrous metropolis, your admiration would be, if possible, increased. In the main streets, you will see companies by tens and twenties, with their wings united by the marginal hooks, whose duty it is to ventilate the crowded streets by the motion of these natural fans; yonder comes a relief file. Wo betide the ignorant snail who incautiously ventures within the hive! They cannot pierce the shell with their weapons; they might cover the unwieldy intruder with propolis,* but that would be expensive; and that is an important consideration, for you

* Resembling wax.

must know that the bee is an accomplished economist; so they take a hint from the snail, and fasten his house with an insoluble cement to the walls, thus making the unconscious animal a prisoner for life, and then in true Egyptian fashion, embalm the gigantic carcass. Then their architecture solves a problem which has puzzled many a mathematician, and one in fact, which was wrought since the time of Newton, crowning the discoverer with a mead of unmerited praise. In the language of Reaumur, "a quantity of matter being given, it is required to form out of it, cells, which shall be equal and similar, and of a determinate size, but the largest possible, with relation to the quantity of matter employed, while they shall occupy the least possible space." The hexagonal* cell of the hive-bee, fulfils the conditions of the problem. A casual observer, however, will not fail to perceive great variety in the construction of their cells, showing an adaptation to circumstances which would swell the instinct roll to a fearful extent. That the *standard* form is the result of pure instinct, I do not doubt, but that a certain degree of intelligence is exhibited in many of their acts, I have no hesitation in saying. Some of the cells are circular, and some elliptical; some are formed of four pieces, and some of five; some are erect like so many columns, others lie horizontally; some of them are half an inch in depth, some, thrice that capacity.

Perhaps the most interesting portion of the subject is the loyalty manifested by all classes towards the royal family. Nothing can exceed the affection, and care of these miniature subjects, for the queen, who is literally the mother of her people. Her slightest wish is gratified; when she moves, a

* Having six sides and six angles.

train of courtiers are always in attendance; a system of duennaship, relative to the young queens is maintained, which would do honor to the most jealous court of Europe. The animosity which exists among their rival monarchs is truly *human*, and whenever a foreign queen intrudes, where the throne is already occupied, she is strictly guarded; and the question of supremacy is left to the queens themselves, which is generally decided by the fall of one of the royal combatants. Deprive a hive of their queen, and the most disastrous consequences ensue; the labors upon the public works are suspended; the laborers collect in little bands in the streets, and the peaceful community is at once transformed into a riotous multitude. Then is the moment for an intruding monarch; she will be welcomed with every demonstration of respect and affection; peace will be restored, and the sweets of the field and the garden will again be laid under contribution.

If turning from the model society of the hive-bee, we contemplate the habits of that rude, but industrious rustic, the humble bee, very much that would seem to be the result of intelligence, cannot fail to attract our attention. Among these little villagers there are no privileged classes; no drones subsisting upon the hard earnings of their neighbors; no court, no queen, nothing of all this, but a plain, honest community of laborers. The result of their summer days of toil, you and I, (to our shame be it said,) have destroyed, as in the thoughtlessness of boyhood, we followed the track of the reapers in the harvest field. Did you ever see them working at their cottages? Arranging themselves in a line, the bee most distant from the site of the habitation, having selected a tuft of moss, divides it with its teeth, and with its first two legs, transfers it to the second pair, and then again to the

third, by which the ball has approximated the place, by about the length of one bee; another laborer stands ready to take it, and passes it, in like manner along its regiment of legs; another seizes it, and so on, until it reaches its destination? What political economist ever recommended a wiser course, in the division of labor? Their affection for their young is almost without a limit. At a certain period in their growth, the bees brood over the cocoons like so many hens, in this manner communicating that warmth which is necessary to the existence of the delicate inmates.

Huber placed ten of these silken cradles in such a position that they had no foundation, upon which to rest firmly. The bees were in trouble; the cocoons were so unsteady that they could not cluster upon them. After several attempts to remedy the evil, as a dernier resort, several of them mounted upon the comb, and fixing their hindermost feet upon its edge, and the foremost upon the table, succeeded in holding the mass firmly, while their comrades clustered upon the cocoons. For three days, did these living props relieve each other, at the end of which time, a sufficient quantity of wax was prepared to build pillars for this purpose. Was this act an instinctive or an intelligent one? If the former, what is the difference between them? For it is highly improbable that this community were ever placed under such circumstances before, or indeed ten of their species, since the first bee

"Wound her small, but mellow horn."

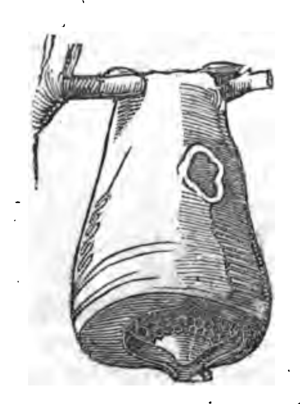
These honest rustics are frequently waylaid by their genteel cousins from the hive, and by pulling and mauling are compelled to surrender their fragrant burdens for the use of these accomplished highwaymen; sometimes the hive-bee, taking advantage of the simplicity of the villager, actually

wheedles him out of his treasure solely by caresses, without the least demonstration of hostility.

Numerous other illustrations of intelligence as exhibited by these interesting creatures, might be adduced, but they come within the observation of every individual who is not immured in a dungeon, and even there, the cunning spider in the corner, might interest him, many an hour, while it would afford conclusive evidence, that even insects possess something so very like intelligence, that philosophers themselves are unable to detect the difference.

Having glanced at these civilized insects, the mind naturally turns to their distant relatives, the Ishmaelitish horde of wasps, with which every idea of carnage and rapine is generally associated. Carrying on an indiscriminate warfare, they are the terror of bee and fly; you may have seen a wasp, prowling for hours about the door of a bee-hive, in wait for some returning laborer, which he remorselessly falls upon and plunders of its treasure.

Here is the nest of the Vespa Nidulans, a foreign species:



These old paper-makers are skilled in architecture: who has not seen their gray nests hanging from the limbs of trees or attached to the posts of fences? During the period of building, they alternately sing, as if to cheer one another in their tasks. Many surprising indications of intelligence are on record, to which doubtless you can have access.

But the ant, the theme of song, the noble exemplication of everything industrious and affectionate; and that rears a pyramid in true Egyptian style, surpassing in *comparative* magnitude that of Cheops or Cephrenes, must not be omitted.

Taking the length of a laboring ant at one quarter of an inch, and the height of a laboring man at six feet, you perceive that a wall of one inch reared by the former, is equivalent to twenty-four feet erected by the latter, and two hundred and eighty-eight feet in the one, correspond to one foot in the other.

Here is a representation of the dwelling of the Termites or white ants; the artist has delineated a human figure to exhibit the comparative height:



Then bear in mind that the ant hills are frequently

ten feet in height, as upon the plains of Senegal, and man must heap four pyramids, like Ossa upon Pelion, or these, the wonders of the world, would suffer in comparison with those, the ordinary dwellings of his brother insect.

Whoever wishes to behold nations contending for a few feet of paltry dust; the brilliant hosts clad in polished armor of jet black, with shields like silver gleaming in the sunlight; to see the ground strewn with the dead and dying; to see prisoners captured and treaties made; to behold military evolutions, of which Bonaparte or Steuben never dreamed; let him be by, when the inhabitants of two neighboring hills engage in mortal combat. If you wish to behold affection which finds but few parallels among men; an affection which jealousy never abates, which time never enfeebles, which even death itself, never chills, you must look for it among these tenants of the hills; you may see them skipping and dancing for very joy, at the presence of a beloved object; you may see it strong in death, when a little band linger about the particle of cherished dust, caressing and brushing it, as if they would reanimate the tiny form. Would you see memory among them, make an inroad upon their territory and bear off a portion of their citizens; retain them for four months, as has actually been done; then place your little colony in the vicinity of their native home, and their early friends will soon visit them, display every sign of recognition and affection, and bear them off in triumph to the hill; presently they will return, with a host of friends and relatives, and your hive will be wholly depopulated. Then there are tribes of slavers among the ants; regular land-pirates, who, indolent themselves, are continually making assaults upon their ash-colored neighbors, the negroes, and actually bearing them off into unwilling servitude, to do the drudgery of the nest.

In tropical countries you may see a legion of well disciplined slavers ambushed near a nest of their victims, and upon a given signal, rushing upon them, storming the fortress, which however is defended with desperate bravery; the old ants are not enslaved, but only the young; every part of the city is ransacked, and soon the assailants with their prisoners leave the depopulated city in loneliness; a few of the old yet remain, and now and then you may see one, mounted upon a plant, holding in its mouth its young, which it had succeeded in rescuing from the enemy. The prisoners gradually become attached to their conquerers, and labor assiduously, and willingly, for the convenience of their masters, which, to do them justice, are by no means cruel in their treatment of slaves. There is much, very much of interest connected with these proceedings, to which it would give me pleasure to allude, were it consistent with the design of this volume.

The most extraordinary statement, and perhaps to some incredible, yet remains to be made, and while it exhibits in a clear light, the intelligence of these insects, you may rely upon its truth, for such men as Huber and Latreille, to whom I am indebted for a knowledge of the fact, could have no motive in fabricating a fiction upon such a subject.

That they possess memory, affection, industry, and skill in military tactics, almost every one is prepared to admit; and perhaps the sceptical would not question the evidence of his senses, should he see them subjugating their neighbors which are blessed with a darker complexion, and carrying them into perpetual slavery; all this may be believed, but when I talk of a *dairy* among ants, of the milch cattle of what some are pleased to call contemptible bugs; of evident care in feeding their tiny herds; and more than all, of a process, verily like

MILKING, it is not strange that unenlightened credulity itself, might hesitate.

Such, however, is the fact; these *cattle* are the aphides and the gall-insects. Any one who will take the trouble to observe, (and who would not?) may see the ants ascending plants and trees to milk the aphides, which subsist solely upon the juices of vegetables, and yield through two little tubes a saccharine liquid; when no ant is by to be benefited, the aphides eject it to a considerable distance. When they do not do this voluntarily, the ant employs its antennæ* in place of fingers, and a good purpose they answer, indeed; passing them rapidly, first on one side of these tubes, then on the other, a drop of the coveted liquid repays the milker for its trouble; so it passes from one aphis to another, until its hunger is appeased.

The ants are jealous of their curious stock, pasture them upon particular plants, and an ant from a neighboring hill that attempts a robbery, receives condign punishment at the hands of these watchful herdsmen. The possession of intelligence by the ant, seems placed beyond a doubt, when we are informed that the yellow ants collecting a drove of these kine, actually domesticate them in their own habitations, protect and caress them after the most approved manner of pastoral times, and even confine them in an inclosure. Sometimes they build a chamber around a thistle stalk, upon which the insect-cattle feed, so that they have only to climb the stalk to enter the fold; in fact, the expedients for preserving their cattle are as varied as those practiced by man, and the proceedings we have related, are by no means the prompting of an unvarying instinct, but of an ever accommodating intelli-

* Frequently called *feelers*.

gence. Illustrations equally striking, might be adduced by scores, for the difficulty, which I meet in this examination, is, not so much the scarcity, as the abundance of material. Industrious, powerful and intelligent as is the ant, it meets a formidable enemy in the ant-lion. Slow in its movements, and those invariably backward instead of forward, its cunning compensates for its infirmity, while at the same time it sets at naught the caution and sagacity of the ant. One would think that such a creature would be thankful for any chance game, any old carcass that it might have the good fortune to discover; but no; a decided epicure, it disdains every thing but the most exquisite delicacies.

Constructing a conical pit, it conceals its grim visage beneath the sand at the bottom, and patiently lies in wait for some unsuspecting ant; a fatal curiosity impels the insect to explore the den, or a careless step, precipitates it to the bottom, when the enormous pincers of the lion close unerringly upon the victim. Sometimes the ant stops half-way upon the declivity, but it is not yet out of danger; those twelve eyes quickly perceive the chance of escape, and their cunning owner, throws a cloud of sand and dirt after the retreating ant, which seldom fails to bring it stunned and blinded to the bottom. Having made a meal of the favorite food, it carefully bears every relic of the murder away from its den. Cast a pebble into the pit, and the trapper will somehow get it upon its back, and scramble up the sides with the ponderous load, balancing it with the skill of a wire-dancer; sometimes a misstep causes it to stumble, and the pebble rolls to the bottom. No way discouraged, the ant-lion retraces its steps, and again shouldering the burden, struggles up the little ravine, made by the descending stone.

Crabs, of which there are several species, present an interesting subject for contemplation.

Who has not heard of the annual journeys of the land-crab from hollow stumps and clefted rocks, to the sea-side? The soldier-like manner in which these singular creatures move, is indeed wonderful. Collecting by hundreds of thousands, they take up the line of march, not as undisciplined militia, but as regulars. The strongest, boldest males form the first battalion, clearing the way, and facing the danger as gallant soldiers should. Then comes the central battalion, composed altogether of females, and the rear is brought up by straggling parties of both sexes, which one could almost think were prompted by no other motive than that which brings all the urchins in the neighborhood to general muster; viz: to see them "train." The hermit crab, when in want of a shell, may be seen crawling slowly along the row of empty shells which the last retreating wave has left upon the beach; now it stops by a commodious habitation, turns it round and over, passes on, and stops again; slipping its tail out of the old house, it tries the new, and thus maintains the search diligently for "lodgings to rent," until it finds a deserted mansion, light, airy and commodious, when it takes immediate possession. Sometimes the new home is much too large, and like a lad in his father's coat, the tenant is almost entirely hidden, claws and all, in the spacious dwelling. Whenever two homeless crabs meeting in the same street, exhibit a remarkable coincidence in opinion, relative to a deserted shell, a regular fight ensues, and the victor takes triumphant possession, rent free.

With these examples, I must, though unwillingly, bring this subject to a conclusion. Unwillingly, I say, not because I fear that the position is not sustained, viz: that intelligence

is possessed by some animals below the grade of man; but because this view of animated nature, is full of intrinsic interest. The demonstrations of intelligence to which I have alluded, are by no means extraordinary, as your own memory will bear me witness, but they are none the less conclusive; the more closely you observe the actions of the brute creation, with the more force, will the conviction be pressed upon you, that they DO remember, compare, reflect, and profit by experience, as well as love and hate, exhibit gratitude, and seek revenge; and the more deeply you will feel the injustice, of that wholesale slander which it has become so fashionable to cast upon four fifths of our fellow tenants of the earth. Leaving every other consideration out of the account, an enlightened self-respect would assign to each its appropriate place, how elevated soever, knowing that man would still be the crowning work of omnific Power.

CHAPTER VI.

Difference between intelligence and reason—The young human being—Its helplessness—Its improvement—The internal world—Rapidity of thought—What is worthy of the name of Self—The relation which intelligence and reason sustain to language—Classification.

I have already attempted to distinguish between intelligence as possessed by the brute creation, and that birth-right of man, a living soul. The latter collects and presents images drawn from real life, rapidly following each other like the pictures in a magic lantern; this is fancy, but we do not at-

tribute it to the most sagacious brute. Man unites ideas; breathes into them as if the breath of life; makes them human; combines as by some chemical power, elements the most heterogeneous; this is imagination; but who supposes a dog endowed with such a gift? Man has a conscience; perceives the moral quality of actions, as right or wrong; but a brute has no such possession or perception. The lioness may destroy her young, but we do not view her with that feeling of abhorrence, that we should the human mother performing a similar act; there is a moral quality in the one, which does not exist in the other.

As in plants we find instinct; in the sponge, instinct and sensation; in the elephant, instinct, sensation and intelligence, so, in the man, we find all these, crowned with reason and a soul. But with all these possessions, what is a young human being? The most helpless of creatures. The chick bursting its prison walls, runs off, tortoise-like, with the shell upon its back. The kitten frisks upon the hearth, in the exuberance of a new and delightful existence. Throw it from the table, upon which, from stool to chair it has clambered. Do you kill it? It scampers away, evidently well pleased with the adventure. Not so with the infant. Caress or handle it with maternal tenderness; its feeble accents are only those of pain and weakness. Even the glad light of the morning, is a source of pain, and we forsooth must blanket out the day to insure its comfort. Withdraw the supporting arm, and it falls helpless to the ground. Let the vernal breezes, so bracing, so full of life to beast, bird, insect and flower, blow upon it. Do they invigorate its little frame? They rather rack it with an ague. Turn its face toward the most beautiful landscape. It does not see it, (but let the tongs jingle in the corner, and its at-

tention is quickly arrested,) and if perchance a tiny copy is pictured upon the magic canvas of its eye, it receives no pleasure. What! no pleasure in the beauties of nature, the handiwork of God! Is it then a little brute? Stay your judgment and look again. Its first birth-day has gone by; perhaps its second. Now a smile lights up its countenance. Give it a rattle or a toy; it tosses its little arms about, as though it would perform some wondrous feat, and crows with very glee. Its clear, blue eye beams with something like intelligence. It has learned to balance itself, and exulting in its newly acquired powers, it attempts a little journey from the cradle to the chair. The experiment is a perilous one; still it totters on, and now a cry of delight, announces the success of its enterprise. Frown upon it. Inquiry is mirrored in its eyes, and wonder is depicted on its parted lips. Speak a harsh word. Ah! you have gone too far; those spirit-windows are dimmed, and its cheeks suffused with tears.

All this is interesting; but do not some other animals display abilities almost equal? Need we seek a more extended or copious language for the young child, than for the dog? Cannot every feeling of the former find a sound, a look or a gesture to express it, in the vocabulary of the latter? Such a sentiment may conflict with the foolish pride of the heart, but it is nevertheless true. Will the natural language of cries, looks and gestures be adapted to the capacities of this being, when it shall have attained its full stature, during subsequent periods of its existence? Let us see. A few more birth-days have been celebrated by the fond parents of that blue-eyed, laughing child. A child no longer; a man now, he loves to contemplate nature. He looks, where beast or bird has never looked—"*through* nature, up to God." That frail thing, that a few years ago, was laid moaning on the downy pillow,

enshrines an ever-living soul—"an embryo God;" a soul like your own, noble in its origin, powers and destiny. His mind immortal as its Author, has gone forth, and from the material Universe, has gathered a universe of his own; a world of thought, as wonderful as that system which surrounds him; of thought, all living like itself, his spirit endowed with almost creative power, has formed and peopled it. What a being that mind of yours is! Are you not conscious of what I tell you? How often, when the curtains of night have been drawn around you, and you have closed your eyes, but not to sleep, have images of the past, and thoughts of the future, occupied that part of you which thinks; when the sports of the day have been renewed with heightened pleasure; companions seemed dearer to you than ever; and you have been as interested and delighted, as you ever were in beholding the most beautiful scenery of earth. This is what I mean by an internal world. I presume you have sometimes seen, in your rambles in the field or forest, tall trees, stripped of their bark, and perhaps riven throughout the whole extent of their huge trunks. You knew that such could only be the effects of lightning. But did you ever *see* its splintered-fire, bursting from the cloud, strike some distant tree or spire? Now, let loose from its dark magazine, and almost before another now, the object wrapped in flame? What can outstrip the lightning? *Nothing*, do you say? Yes, *you* possess that which can leave the winged arrows of Heaven far behind. Do you ask what it is? I answer, *thought*. When you saw that bolt descending, did you not think of some giant oak, which you had often passed, and as often admired, on your way to school; or of the dwelling of a neighbor whom you loved, situated in that direction, which might be injured or destroyed? Did not the accounts which you had heard or read,

of loss of property and life, flash upon your mind, and all this, before the loud, sharp thunder betokened the stroke? How many times, think you, your mind could travel from earth to heaven and return, before the lightning reached its destined mark? In a clear evening, do you not sometimes fix your eye upon a distant star, that shines away up in the blue sea of space? Doubtless you do, and as you continue gazing, and begin to realize that the "lucid point," is *not* "a needle's puncture, to let God's glory through," but a vast world, which,

"Perhaps illumes some system of its own,
With the strong influence of a radiant sun;"

and as a vast chronometer* of Heaven, poised and propelled by God's own hand, gilded with living light, beats *ages* in its ceaseless swing. Do not your thoughts fly up, where your eyes can scarcely see? But did you ever *wait* for them to make their journey there? You readily answer "no;" and yet the very light that meets your eye and apprises you of that star's existence, though flying at the rate of one hundred and ninety-three thousand miles in a single second, may have "left its far-fountain, twice-three years ago."

Perhaps your thought, escaping the visual bound even of the far-seeing telescope, embarked from that far island in the noble Archipelago† of God, to travel on as near as thought *can* go, to that incalculable Centre around whom all systems wheel—to Him, "with whom is neither parallax‡ nor shadow of change." How wonderful is thought! What a birthright is mind; a birthright "created in God's *own* image." Take this from man, and he becomes a brute; deprive him of sen-

* A time measurer, as a clock.

† Literally, chief sea; in a general sense, "sea of many isles;" employed in this latter sense here, calling the stars, islands.

‡ Variation.

sation, and he is superior in nothing, to the trailing vine or the green rush. Take care of yourself, then. Self? What is worthy of the name, but mind? Take such a being, thus gloriously endowed. Give him gesture, an expressive countenance and a voice; the voice of an infant or a dog; let him cry, moan, whine, yelp, growl, or bark, or even give him the melodious throat of the nightingale, or the volubility of the magpie, and bid him let his feelings forth through such a medium. Could he do it? Can *you* do it? What mockery!

Having concluded what I intend to say upon the subject of intelligence and reason, some one may inquire, (I hope *you* will not, reader,) what connection there is between these possessions and language. Suppose a dog *can* compare, and an elephant calculate, what bearing have these processes upon the subject of which your book purports to treat? It is certainly far from encouraging, to have such questions propounded at so late a period; but the explanation is easily made. If the animate world possesses nothing but instinct, then there is nothing upon which to predicate an intelligent language among brutes; if man is endowed with nothing superior to mere animal intelligence, then both the dog and his master would employ a medium of communication, differing, it is true, as the organs employed, but precisely similar in extent, and every important particular. But we have seen that while the language of the infant and the brute are identical, the language of the man is as much superior to that of all other animals, as his powers are nobler; as much more complex, as he, himself is more elevated in the scale of being.

CHAPTER VII.

Language of animated nature—This is a world of language—Tabular view—Antennal language—Illustrations—Language of gesticulation—Its importance—Defects in modern systems of instruction—Power of gesticulation—Not subject to rule—Anecdote of Curran.

Let us now proceed to talk of the language of animated nature, as being any means by which one individual furnishes another with ideas.

Always living in a world of life and emphatically a world of language, and having, from earliest infancy been inured to the multitude of sounds that are ascending day and night from myriads of living things, they have become almost a part of our being, and excite no particular attention.

Hence it is, that the most graphic delineations of nature are generally the production of those, who, escaping for a while, the murky atmosphere and discordant din of the city, enjoy a new existence, as they inhale the fresh, free breath of heaven, sweeping the rocky hills and verdant dells of the country. But if we had sprung into being upon some planet where there was no language, and were placed in the most secluded spot of this living world, at midnight, how tumultuous would be the feelings which these voices would awaken, even then, as each wave of sound struck upon our unaccustomed ear!

The glow-worm trimming its signal lamp in the dewy grass; the hidden snake that stays your step with its warning rattle; the bright-eyed viper beneath the stone-heap, or the noisy geese by the pool, that talk almost *English** to you as

* Hissing; our language is noted for the recurrence of sibilants.

you pass; the cicada playing a merry tune upon his triangle; the ant's silent expression of its feelings, and the dying dolphin's hues; the lion's bristling mane, and the panther's flashing eye; the bird's soft madrigal, and the cricket's roundelay, ringing loud and clear from the hearth-stone; the angry bass-note of the captured bee, and the lazy hum of the sleepy flies; the tiger's rumbling growl; the vulture's scream; the squirrel's chirrup, and "mousie's" piping voice, are naught but so many varieties of a possession which is as universal as social being itself. Naught but so many displays of infinite Wisdom, and all are LANGUAGE—as strictly so, as the babel-sounds in the market, the low whispers of lovers, or the thrilling tones, flushed cheek, lighted eye and expressive gesture of the orator; differing in manner, differing in quality, differing in extent, but in *nature*, essentially the *same*.

Language is susceptible of one grand division; viz: Natural and Artificial; the former, the language of animal feeling and intelligence; the latter, peculiarly of human thought and human reason; the one has been molded and modified by the skill of the creature; the other is originally adapted to the wants of its possessor by the wisdom of the Creator; in fine, the one partakes of the nature of its possessor, ever improving, and ever susceptible of improvement; the other limited, and without a possibility of expansion.

Natural language in a general sense, is possessed alike by the horse and his rider, by the insect and its tormentor, and as such we will now contemplate it. Artificial language is peculiar to the man, and though the parrot may be taught to sing "Hail Columbia," and the magpie to wish you an apposite "good morning, sir," yet it is a mere mechanical operation, unintelligent in itself considered, as the creaking of a cart-wheel; divested of feeling, intelligence, *every* thing which

gives life, force and *soul* to language, and in comparison with which, the cawing of the most loquacious raven, is greatly superior.

With these remarks, I will proceed to glance at the different descriptions of Language, but it will be *only* a glance; the subject is worthy a larger volume and an abler pen than my own; and if, by the allusions that I make, interest may supersede apathy, and neglect be transformed into attention relative to Language, it will be all that I wish, and even more than I dare hope; that an existing interest should be deepened, and the duty gradually lose itself in the pleasure, is no more than the *subject* should effect, without respect to the garb, with which it is the writer's province to clothe it.

The different methods of communication, together with the organs chiefly employed, and the senses to which they are severally addressed, are contained in the following table of

LANGUAGE.

NATURAL.	ORGANS.	DESCRIPTION.
Antennal,	Antennæ,	Visible and Tangible.
Gesticulation,	Muscles,	Visible.
Countenance,	Nerve of Expression,	"
Sounds,	Musical Apparatus,	Audible.
Voice,	Larynx,	"

ARTIFICIAL.	ORGANS.	DESCRIPTION.
Deafly Dumb,	Fingers,	Visible.
Spoken,	Larynx, tongue, teeth, lips and palate,	Audible.
Written,		Visible.
Written for the Blind,		Tangible.

The antennæ, or as they are frequently termed, horns or feelers, are possessed by almost all insects, though differing

in form and size. Much doubt has been expressed by several eminent naturalists, relative to the exact use of these organs, but one fact is ascertained; viz: that the sociability of the bee and the ant, is as effectually destroyed, when the insect is deprived of its antennæ, as the social relations of a *man* would be, were he deprived of every medium of communication with his fellows. Any person who is not *above* such contemplations, can satisfy himself upon this point. Separate a queen bee from her subjects; the sad announcement has not yet been made; the public works progress; the wants of the young are supplied; laborers are continually passing in, laden with the sweets of many a rifled flower, and going forth for a new supply. But see! A few of the workers are apprised of the bereavement, and like couriers, are hurrying from street to street. Now they meet a companion; one of them crosses antennæ with him; he learns the melancholy truth; he too is agitated, and hastens off to inform his neighbors; he performs the same act, and like results follow. Thus it passes, (I had almost said, from mouth to mouth,) from antennæ to antennæ, until the whole city is in an uproar. Place the queen in such a position that her subjects can reach her with their antennæ; a conversation is immediately commenced, and like the chief magistrate on days of levee, the ill-fated queen is compelled to shake hands and say a word to each of the loyal throng; that is, to cross antennæ with every one. Deprive a queen of her antennæ and the workers, though they acknowledge her rank, do not recognize her, but pay allegiance as readily to any other; perform a similar amputation upon a worker, and he leaves his labor, his companions, and finally the hive. In a moonlit night, as the sentinels march their "rounds," if some prowling moth ventures within the lines, the challenge is passed, and the antennal

alarm given, when a troop rushing out, inflict summary punishment upon the hapless spy.

Ants afford a striking exemplification of this language, not only in affectionate intercourse, but in war. In the heat of action, when ant struggles with ant in mortal combat, if, as sometimes happens among *men*, friends make an assault upon a party from their own city, through misapprehension, a recognition takes place, by the crossing of their antennæ, and they immediately set to, with renewed zeal, to compensate for the loss of time. We are told by a gentleman of great celebrity in the literary world, that being annoyed by some ants, that encamped in the neighborhood, and not unfrequently despatched foraging parties, in quest of honey, sugar, and similar rarities, he suspended a dish of molasses, by a string to the ceiling.

The marauders paid their visit as usual; but not finding what they coveted, most of them returned to their quarters; one, more curious than the rest, pursuing his inquiries, chanced to set foot upon the string, and traveling down, discovered the treasure. After satisfying his appetite, he, too, disappeared; but soon, the gentleman was surprised to see him returning, as pilot, with a troop of companions following him; down the string he went, and down they all went, and had a merry time of it. Who doubts that a conversation, maintained as I have intimated, was the cause of the latter expedition? These proofs of antennal language among insects, were taken at random, from a multitude; I might speak of the signals of alarm and attack; of orders and counter-orders; of the calls for assistance, and the reciprocation of affection among these creatures; in short, of all those communications which must always be maintained by language, between good citizens in any well-regulated community,

whether of ants or of men; in a metropolis, or an emmet-hill. This subject you can examine at your leisure, and you may be assured that it is one which a few moments, or a few hours of contemplation will not exhaust.

Let us now turn our attention to the natural language of Gesticulation; a medium of expression to which we frequently resort, and of which we are accustomed to think so lightly; a language as perfect in the savage as in the civilized, in the Asiatic as in the American; a language which needs no Grammar, no interpretation except one which is readily suggested. How often would the traveler in strange lands perish from hunger or cold; how often would his life be jeoparded, were it not for gesticulation; to this he can resort. Is his home eastward? He points thither. Is his destination west? He indicates it in a similar manner. Is he cold or weary? He wraps his garment more closely about him and shivers, or prostrates himself upon the ground. The veriest savage understands it well, though he may proffer no assistance.

Have you never felt the power of a single gesture—a something which words could not possibly have effected? Have you never seen an orator as well as heard him, when you was at a loss to determine of which sense you had rather be deprived, sight or hearing? Then, indeed, do you know something of the language of gesticulation.

The language of gesticulation is much used by those nations who have not assumed the fetters of arbitrary rule, or by those rude tribes, whose artificial language is inadequate to clothe all the ideas which they have occasion to express. As *artificial* methods of communication are improved, the *necessity* for gesticulation is removed, and therefore, it is in a great measure dispensed with. This is undoubtedly a defect in the elocution of our country; fearing to become theatrical,

we have become statue-like, and, in many instances, display no more signs of life, than did the fabled statue of Memnon, whence musical sounds were said to issue.

This species of Natural Language cannot be learned in the schools; it is not a human invention, and human skill can no more improve it, than it can the eye itself; we should avoid extravagance and inelegance in gesture, but give a person an important subject, let him understand it fully, and feel deeply its moment, and his gesticulation, thus prompted, will be as graceful, and yet forcible, as his emotions are strong and natural.

The best rule for employing this, and every other species of natural language, is to observe *no* rule; touch them not with the finger of art; suffer them to be what they are, *natural*, and criticism will be silent, as in the presence of the great standard. When I speak of gesticulation, I do not refer to the automaton-like movements which are too frequently displayed at school exhibitions, for the admiration of the multitude. To a person of discernment, the merit, if there be any, does not consist in nature, but in the *imitation* of it, and he may be betrayed into the same error, as was Johnson, who mingled with a vociferous rabble, to witness the antics of a bear; returning home, he pranced and leaped about, fairly surpassing Bruin, "but," said his friend, "it was a *bear*, you know, and not a man; this was the true cause of the stormy admiration which you witnessed." Real gesticulation is not necessarily a separate part, but with the speaker, should spring directly out of the subject; and as, when you touch some string of a harp, the corresponding chord will give forth its tone though unstricken, so, in obedience to a kindred law, should gesticulation add depth and power and richness to the thought. To return to the anecdote; what in the bear excites wonder, in the man,

would either awaken contempt, or be a mere matter of course; thus a man gamboling about like a quadruped, is a proper object for ridicule; but a human being, walking, "with countenance erect," is what every one expects.

But an individual, who, without being interested in his subject, indulges in frequent and violent gestures, threshing the innocent air in the most barbarous manner, tells that of himself, that his friends would shrink from telling for him. He discloses most clearly, not only a want of feeling, but a *consciousness* of it; how revolting in any speaker, whose theme is one of interest, whether in the legislative hall, at the bar, or in the private circle, but especially in the occupant of the sacred desk—the minister at the altar! Let him who has witnessed such a scene, (and who has not?) take warning. The language of gesticulation is farther removed from the perverting power of the hypocrite, than the invented language of men. It requires no extraordinary share of discernment to discover whether the gestures of the speaker have a more intimate connection with the *man*, than the movements of the vane upon the spire. Theatrical performers present no sound objection to this statement; for it is well known that the tears which trickled down the cheeks of Garrick, or the smiles that lit up the countenance of Foote, were not fictitious ones, but the real, scalding tears of grief, and the heart-born expressions of joy. This is the acknowledgment of almost every actor of the first class, and indeed it was remarked of one, that "he never *was* natural except when he acted." Let us, then, preserve natural language as its Architect gave it, that the ceremonious and sincere may not be blended in an inseparable unity.

The ancient Romans employed gesticulation to a far greater extent than we do now. They even *separated* speaking

and acting; and while one individual pronounced the sentiment, another made the appropriate gestures; an arrangement which seems very strange to us, but it is not so strange perhaps, as a feat which it was reserved for us moderns to perform; viz: for *one* individual to carry on both parts, without any obvious connection; learn to pronounce the piece first; second, the gestures; and third, so ingeniously to combine them, that an acute observer could at least determine, that it was one sentiment or another of several consecutive ones, which the particular gesture was designed to enforce.

It is recorded that Cicero, the great Roman orator, contended with Roscius, the actor, which should express a thought in the greater number of ways, the former in artificial, spoken language, or the latter in gesticulation. This shows, in a strong light, the great skill which was attained in the latter species of language.

Plays, performed without spoken language, but simply *looked* and *acted*, are called Pantomimes, compounded of two Greek words, meaning, "imitating every thing." Some individuals can convulse an audience with laughter one moment, and melt them to tears the next, without employing an audible word, but merely looks and gestures. But the days when fingers talked, and muscles moved eloquently, are almost gone by. Artificial methods of communication are making sad inroads upon the peculiar province of natural language. Inventions are multiplied almost daily, that supersede the necessity for its use, although they can never attain its elegance or power. The demonstrative or pointing pronouns furnish an apposite illustration:—Suppose you are directing the attention of a child to some objects in nature; perhaps a beautiful plain, stretching away almost to the horizon's verge, and a mountain looming up in the distance beyond. Pointing to

the former, you might say, "plain;" to the latter, and say, "mountain;" the child would understand you. Again, you might suffer your arm to hang motionless by your side, and say, "*this* is the plain; *that* is the mountain;" and you would be understood equally well, for the demonstrative supplies the place of a gesture.

No one ever mistakes a gesture which is prompted by nature; no Joseph is demanded to interpret its meaning; when a man wrings his hands convulsively, you know that he is in distress; when he claps them and dances, he says to you, as plainly as he can, "rejoice with me, for I am happy." Who needs a commentator to inform him that this man is surprised, and perhaps a little alarmed, at something, which he does not deign to tell us?



Who doubts that Shakspeare's Horatio threw himself into a similar attitude, when spying the approaching ghost before Hamlet, he cries out, "Look, my lord, it comes!" Perhaps some one, when reading, in these pages, of the proceedings of those famous dairy folks, the ants, milking their kine, and folding their herds, may, dropping the book, lift his hands, as does this worthy, and in an ecstasy of surprise and appre-

hension, exclaim, "bless me! can this be true? Is the author sane?" It would not be strange if some person should actually be affected thus, but I hope that *you* will not, reader.

Here comes another character:



I need not tell you that a strong feeling of aversion is indicated by the stretched out arms and averted head. It may possibly be, though I do not assert it, that this man, believing in the intelligence of animals, and in an intelligible language among them, has been listening to a tirade of ridicule against the views here expressed. Just at this fortunate moment, his patience becoming exhausted, he, with this expressive gesture, exclaims, "away with such contracted notions! Away with them!"

So great power did the ancients attain over their auditors by means of this language, when combined with artificial methods of communication, that a law was passed, forbidding the Roman Senators to employ it in their orations.

The proper use of gesture, sometimes produces wonderful effects. It is said that Curran, when pronouncing his eloquent speech relative to those who acted as informers to a tyrannical government, after portraying their character in all

its dark and hideous lines; representing them as disinterred from a moral grave—wrapped in the garments of corruption—their hearts festered and dissolved within them, appearing in the Court-room as witnesses; after he had sketched all this, with a fearful minuteness, Curran suddenly stopped. His eyes starting from their sockets, were fixed by some hidden fascination upon the opposite door; his trembling finger pointed thither, as though the very image he had just portrayed, stood before him; in a voice low and sepulchral, as if terror had *disembodied* it, inquired, "have you not seen when he entered, how the multitude retired at his approach? How the human mind bowed to the supremacy of his power, in the undissembled homage of deferential horror?" The words were nothing, but the manner, the look, the gesture were *every* thing, and the vast concourse, already wrought up to the highest pitch, turned as one man, with a convulsive shudder, toward the door.

CHAPTER VIII.

The Deaf and Dumb—Their manual Alphabet—Mr. Gallaudet—The countenance—Passion-dialing—Connection of mind with body—Description of the Dial—The sixth sense—The facial muscles—Their names.

Having concluded what I proposed to say, of the language of gesticulation, I can only recommend it to you as worthy a far more thorough investigation, than I can even *assist* you to make, much less institute altogether.

In turning from this to another species of natural language,

one of the *artificial* media of communication, seems to claim a place in this connection; viz: that of the deaf mutes. Perhaps, indeed, it cannot be more properly introduced than at this very moment, as we are leaving the only branch of natural language which bears the slightest analogy to it.

The skill of man was never directed to the accomplishment of a nobler object, than the invention of some means by which these unfortunate, but immortal beings could become more thoroughly conversant with one another, and the beautiful world around them. Remember that there are more than *sixty two thousand** human beings, among the civilized and enlightened nations, beside the vast number scattered throughout the heathen tribes, who dwell in a world silent as the tomb; sixty two thousand who never heard the sweet tones of friendship, as you have; never listened to the melody of music; never felt the eloquence of speech.

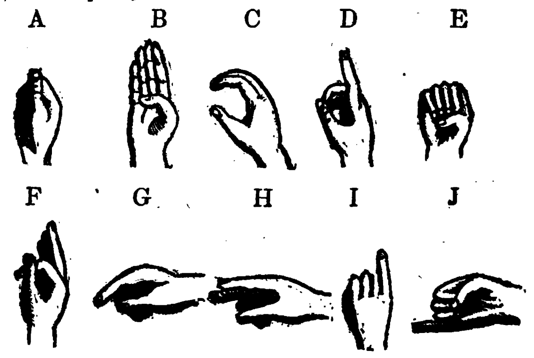
When you remember this, you can appreciate that philanthropy, which catching a hint from the natural language of gesticulation, devised, a method, by which these pent-up spirits can hold converse with their fellow-men. Think a moment! What *voiceless* but heartfelt praise must have ascended from those silent ones, to that great and good Being, who put it into human hearts to do a deed like this. Think again! What gratitude should swell your bosom, that speech and hearing unimpaired, were given you. I am sure that you do not wonder why I have devoted a few lines to a notice of the language employed by the deaf-mutes, for, in truth, I will not hesitate to say, that if I could trace *no* analogy between this and any other branch of the subject, I should most certainly

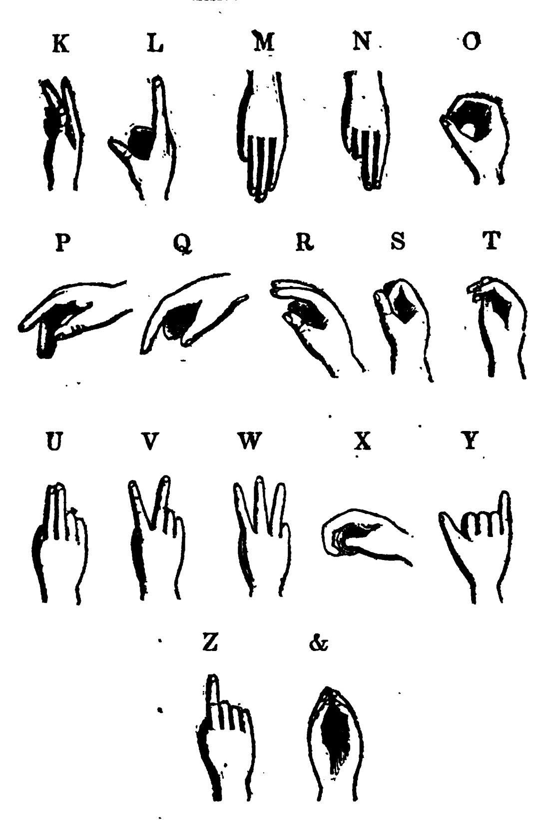
* 6,106, in U. S. A.; 12,000 in England; 16,000 in France; 27,000 in Austria.

introduce it, for the peculiar interest with which it must ever be invested, to him who, with a clear head, is also blessed with a *warm heart.*

A few years only, have elapsed since the deaf, the dumb and the blind were considered to be without the pale of intellectual being, and amid the blaze of mental and moral light were suffered to grope in the darkness of heathenism. But a star has arisen in their dark horizon, ushering in a glorious morning, and almost blessing them with a new existence. It seems as if the prophecy of the gifted Isaiah was even now being fulfilled; 'that the eyes of the blind are even now opened, the ears of the deaf unstopped, and the tongue of the dumb breaking forth in song.' But when that time shall indeed arrive, the name of Thomas H. Gallaudet will be engraved on the tablet of many a grateful heart. Howard let the glad light of Heaven in upon the dark, damp cells of European prisons, but Gallaudet has unbarred the stronger gates of the mental prison-house, and admitted the nobler, purer radiance of intellectual day.

The manual or Spanish Alphabet of these unfortunate beings is here presented. Thus "the deaf hear:"





Let us now turn our attention to that most interesting portion of natural language, the countenance; a subject, which has strong claims to be ranked as a science, and which is well worthy the attention of the physiologist, the metaphysician, and, allow me to add—yourself. By Pathognomy or passion-dialing, you are to understand, the knowledge of some apparatus for determining the emotions or passions that agitate the

bosom, though not expressed in artificial language. Who does not know that the inmost feelings of his soul may be shadowed out upon the countenance, or in the positions of the body, in characters so legible that even an indifferent observer can read them? That, though he may *say* he is not offended, or grieved, or terrified, that his countenance bears a *better* testimony? How careful should we be, then, that no emotion heaves our bosoms, that we indulge in no habit of thought, which we should blush to have "known and read of all men," for it is a species of natural language, understood alike by Greek and barbarian; it requires no key, no vocabulary; in it, the inhabitant of Greenland can hold converse with the swarthy son of the tropic, and the native of America with the Ishmaelite of the desert; and it is the language of brutes as well as of men.

Let us now, examine the structure of this wonderful apparatus, which may be appropriately termed the passion-dial. The human body is the dwelling of the mind, and without it, would be inanimate as a clod of earth, which indeed it is, though wonderfully formed and filled with life. Now, though the ethereal tenant has the control of every part of its earthy dwelling, yet its particular residence is in the brain, which is situated in the head. Few muscular movements of the body when in a healthy state, occur without the volition of its inhabitant.

These motions are performed by means of five or six hundred bundles of cords or fibres which are called muscles, and compose what is generally termed the *lean* part of the flesh. Some of the muscles act in opposite directions, and are called antagonist muscles; thus if the mind wills to bend the arm, the obedient muscle contracts; it wills again, and *this* cord

simply relaxes while another acts, and the arm can be thrust out, violently, as in giving a severe blow.

The force of a muscle is in proportion to the number of fibres or strands which compose it, but only a small number could be attached to a *point*, therefore they are converged and united to one cord called a sinew or tendon, which is fastened to the bone, without enlarging the joints in such a manner as to destroy the symmetry of the limbs.

While treating of these curious instruments of natural language, it may not be uninteresting to allude to the *muscular sense*. Every one is not aware that he is blessed with *six* senses; perhaps you are not, reader; but a few facts will convince you, that for elegance and rapidity of movement, and for a vast amount of physical convenience and happiness, the animate world are indebted to this seeming supernumerary. When you wish to lift your hand to your head, how do you know where the useful member is? Are you ever under the necessity of looking for it? It might be crossed upon your breast, or be lurking behind you; it might be reposing lazily in your pocket, or be hanging by your side; but I have no hesitation in saying that you never were obliged to institute such a search. Again; when you reach upward for an article, what acquaints you, that the hand is elevated to its utmost height, when you neither touch nor see any object? In the darkness of night, you are as well aware of the state of the voluntary muscles, as in the glare of day; it cannot be the result of vision, for the blind man never errs in this particular. When you wish to turn your eyes toward any object, I will venture to say, that you never make two efforts to direct them as you desire, now contracting one muscle too little, and now relaxing another too much; and yet, how do you become acquainted with the condition of these six muscles?

Certainly neither by sight nor touch, for then would these senses be constantly employed in superintending the operations of four hundred muscles, and their millions of fibres. Indeed, it is by no means probable that these senses are at all competent to the task, for such is the position of many of the muscles, that they are inaccessible, either to the eye or the hand. These duties then, the benevolent Creator has assigned to the sixth or muscular sense.

I will mention an instance of the loss of this sense, as given by Dr. Griscom. "A mother, while nursing her infant, was seized with a paralysis, attended by the loss of power on one side, and the loss of sensibility on the other. In this situation, she could hold her child with the arm that retained its strength, only *when she looked upon the infant.* The moment her attention was diverted thence, the flexor muscles relaxed, and the child was in danger of falling." The loss of this sense could be seen no where so clearly, as among those who are yet in all the vigor and buoyancy of youth.

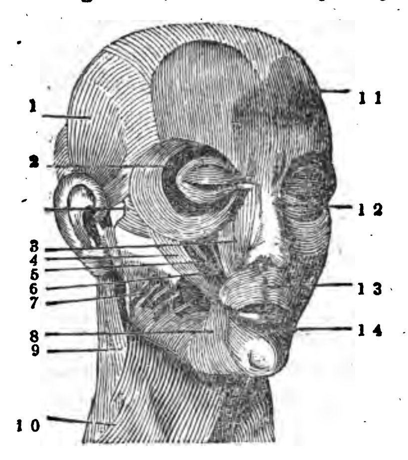
Reader, did you ever attend District School? If so, you remember what I cannot describe but poorly. Let us visit the time-tinged building near the close of a long, summer afternoon. How many anxious, how many impatient countenances are watching the sunlight, streaming in, at the dingy panes of a west window, as it moves toward a particular nail-scratch upon the floor, the handiwork of some juvenile dialist. Who would not know that some mighty revolution is about to be effected in this little community? The hum of forty pairs of lips, which are plied with a rapidity precisely proportioned to their owner's zeal, is gradually dying away; the small folks have had their last ennui for the afternoon. The light has reached the mark—is on it—beyond it! Some are packing their books for the third time in ten minutes.

Even the "large" boys, on the back seats, look up from their copy, and as for the low seats, every occupant is a little model of attention.

Let us make the best of our way out, before they get their hats, bonnets, books and slates. Here they come! Some skipping and jumping; others hopping like veritable tree-frogs. What shouts of joy and exultation and sheer love of noise fill the air! One sets up a whistle that a regular "northeaster" might envy. Another gives a whoop worthy of Black Hawk or Tecumseh. Away they go, hither, thither, in all directions to their homes. Let us rob this little troop of their "*sixth sense*," and witness the result.

What a change! Now they come slowly out, one by one, peering and peeping about, one for his hand to put on his hat; another is closely watching the already ascending arm, to be assured that it reaches its destination; a third has advanced one foot, and is looking behind for its lagging companion; some drop their books, others their slates, and a singular appearance they make. Such is the importance of the sixth sense to the animate world; but, interesting as it would be to trace, still farther, the action of this sense, my limits forbid me to dwell longer upon it, and we must return to the muscles of expression. Some muscles are circular, as those which surround the eye or the mouth, called sphincter muscles, from a Greek word, signifying "to draw together."

Here is a drawing of the face, with its principal muscles:



1 *Temporal muscle;* this is the elevator of the the lower jaw, in mastication. 2 *Orbicularis oculi;* the circular muscle employed in squinting, closing the eye, and in producing tears. 3 *Levator labii superioris;* employed in elevating the upper lip. 4 *Zygomaticus major*, draws the lips upward and outward. 5 & 6 *Zygomaticus minor;* these muscles are exercised almost constantly by those who live laughing lives; they are employed in grinning by some animals when enraged. 7 *Assistant Masticator.* 8 *Depressor anguli oris;* this muscle draws down the angles of the mouth in fear, contempt, sneering and kindred feelings. 9 *Mastoideus;* this is much used by petulant persons and young ladies, who put on contemptuous airs, in throwing back the head. 10 *Latissimus colli;* this beautiful ribbon-like muscle depresses the lower lip and corrugates the skin of the neck. 11 *Frontalis;* it raises the eyebrows as in wonder; and wrinkles the forehead as in deep thought. 12 *Corrugator supercilii;* the action of this muscle produces a scowl. 13 *Orbicularis oris;* draws together the lips. 14 *Levator labii inferioris* lifts up the lower lip as in the act of pouting, produces a dimple, and may compress the lips so as to give an appearance of firmness.

It is calculated that a hundred muscles are called into action every time we breathe; and yet how few are conscious of the vast variety of machinery that is set in operation, each successive moment, night and day, year after year, till life is extinct!

CHAPTER IX.

The brain, the capitol of the mind—Its messengers—The nerves—Experiment—Nerve of expression—Illustration—Explanation of phenomena—Anecdote of Garrick—Conclusion.

Perhaps you inquire, "how the mind communicates its wishes to the muscles in different parts of the body?" This is a natural question, for we are not conscious that the mind ever leaves the brain, even for an instant, until it "returns to God who gave it, and the body to the earth as it was."

Now, as the mind occupies the brain as its capitol, it must have messengers to bear its mandates to the members of the body, and also to communicate intelligence from its extreme parts. Of the *nature* of this communication, we are ignorant, but this we know, that from the brain, "that palace of the soul," issue in every direction, fine threads, called nerves, which, as so many avenues from the seat of power, to every portion of the territory, communicate with every muscle, and visit every point on the surface of the body.

These nerves are the scouts, the mental runners; they warn, if they do not defend; they unite mind with matter, the material with the immaterial; nothing escapes their notice.

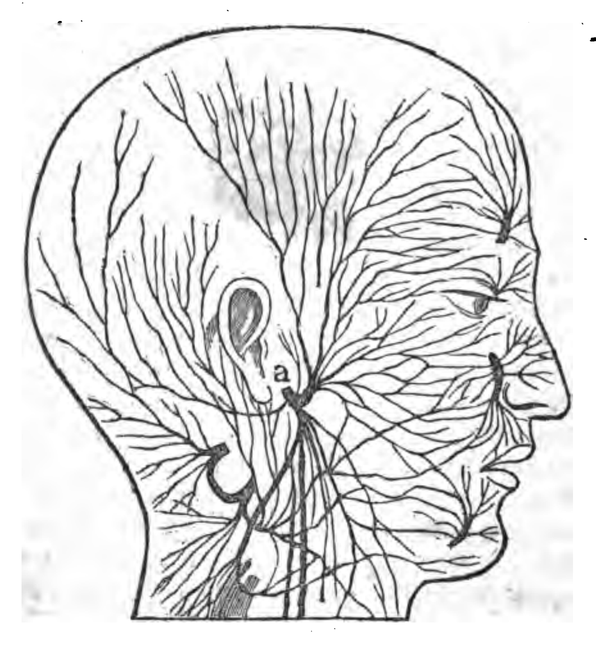
Take a fine cambric needle, and make a slight puncture in the hand of your companion. There! You touched a nerve, and the mystic messenger communicated it to the brain. What next? His mind has become acquainted with the fact, and has issued a variety of orders; other machinery is put in motion; some muscles relax; others contract; the head turns, and your companion discovers you with the needle. His eye reflects your image; the tell-tale nerve communicates it at *head*-quarters. See! it has willed again; along the nerve the swift volition darts; the muscles obey; *he smiles;* all this, quick as thought!

But especially, we are bound by our subject, to notice those wonder-working nerves, coming out in front of the ears, and diverging over the whole face.

These nerves are the sole instruments of expression; the thousand strings of this wondrous harp of life. Independent of the nerves which bestow sensibility, both the motions in respiration and speaking, every indication of emotion in the man, and every demonstration of passion in the brute, are produced solely through the influence of this nerve. If the *other* nerves which wander in "live meander," over the face, are divided, sensibility is destroyed; but all the exquisite changes and shades upon this mental dial-plate, remain unimpaired. In the language of Bell, "it is when the strong man is subdued, by this mysterious influence of soul and body, and when the passions may be truly said *to tear the heart,* that we have the most unequivocal proof that it is the order of functions which we have been considering, that is then affected. These are not the organs of breathing merely, but of natural and articulate language also, and adapted to the expression of sentiment, in the workings of the countenance and of the heart." From the first gasp of the new-born in-

fant, to the last, faint struggle of the dying man, these mystic chords are ever vibrating, to each breath of emotion, and each ruder gust of passion.

Here is a delineation of one of the nerves of expression, coming out before each ear, and diverging over the whole face:



The truth of these statements has been established by actual experiment. An eminent surgeon once divided the respiratory nerve on one side of a monkey's face; strange results followed; one side of Pug's visage, kept on, wriggling, chattering, grinning and scowling, as impudently as ever, while the other maintained all the gravity of a Turk. Sepa-

rate this nerve in a dog, and though he will fight as bitterly as ever, there will be no retraction of his lips, no flashing of his eye. A person, whose nerves become impaired or destroyed by disease, laughs audibly but not visibly, and furnishes the only instance of a laugh with unruffled sobriety. The general system of nerves sustains the same relation to the development of our affections, that the organs of sense do to those conceptions which correspond to the qualities of the material world; without them, we might hear and see, but those emotions which vivify and humanize thoughts and actions, could never be awakened.

Depending upon the peculiar sensibility of the heart, is an extensive apparatus of muscles; so a mental state produces a sensation in the heart, and through the physical connection, this, the acting agent, and that, the controlling principal, the complicate and beautiful machinery is put in motion. While the muscles employed in speaking, are instruments of expression, there are *other* muscles, also, peculiar to man; which are continually speaking out the secrets of the tenant within. Man, then, from the very structure of his frame, evinces the possession of something higher and nobler than mere animal intelligence; for he not only has nerves and muscles, emphatically his own, but he combines in his constitution, the peculiar excellencies of the two great classes* of animals.

From the preceding explanation of the nerves, you will readily understand why real grief affects the breathing; why the utterance is hurried and imperfect; why the muscles of the throat are affected with spasms, and why the lips and nostrils quiver under its influence; you will understand why fear blanches the cheek, and a sense of shame suffuses the whole

* Carnivorous and gramnivorous.

face with crimson, which in the language of the old cynic,* is virtue's own color.

Whoever looks around upon the circle of his acquaintance, will not fail to perceive that those who are the most endeared to him, and whose countenances are the most agreeable, are not those who are abstractly beautiful, possessing regular features, or fair complexion, or symmetrical form. The countenance is a lantern, and when illumined by the noble sentiments of a cultivated intellect, and the pure affections of a gentle spirit, it is truly beautiful; and as with the lantern, we see the lines and figures that adorn it, only as the lamp within, shines through them, so we see the lineaments of the countenance to the best advantage, when the imprisoned soul *shines forth*, giving expression and life to its lines.

As the plastic material of the statuary, indurates into a permanent expression, beneath the touches of his genius, so the living countenance gradually assumes that fixed and settled expression, which enables us to determine the cast of soul within. Here are two visible illustrations of this:



No one, not even the child, needs the least word of advice,

* Diogenes.

relative to the choice of a companion; a language more conclusive than words, endears him to the one, with a power which only finds a parallel in the fear and abhorrence with which he would shrink from the other. How striking the contrast! The mildly-beaming eye, the softened cheek, the open brow, and the calm, sweet expression of the mouth, in the one; and the deep lines of passion, the demoniac eye and the disheveled hair in the other, cannot possibly be misunderstood.

"She reminds me of Eve, before the Almighty infused the breath of life into her," is the remark once made by a gentleman, on seeing a lady of faultless symmetry of features, but sadly deficient in expression; a remark, though rather harsh, involving much truth. To resort to the simile of the lantern, if it is dark, the presumption is, that there is little light within; in other words, little feeling, little soul.

It was remarked that this language is common both to man and the inferior animals. This, every one has seen in the flashing eye, or the retracted lip of the canine race; in the arching, bristling back of the cat, the laid back ears of the ill-tempered horse, and the mild, intelligent eye of the elephant, and the dog. One would think that my artist considered the case a difficult one to make out, from the specimen of humanity which he has sketched below; the head of an idiot.





I had thought of proposing a question, relative to the

comparative superiority of expression in an ordinary human countenance, and a Newfoundland dog, but query or comment is unnecessary, and I pass them over in silence.

The eye, too, has been the theme of the philosopher, and the bard, and a worthy one it is. Through its crystal orb, the light of intellect shines the clearest, if it shines at all; through this the soul can speak, when words are denied, and the tongue falters. Who has not read and felt its language? No matter in what unseemly mold the features may have been cast; no matter how dark the tinge which summer suns may have given them; no matter how harshly the voice may grate upon the ear; whether it rumbles like distant thunder, or shrieks and breaks like the noise of a file, or assumes the dissonant alto of the toothless crone; if this light of the features is there; if

"That pure, though captive effluence of the sky,
The vestal-ray, the spark that can not die,"

gleams out in this glorious mirror of the soul; THIS possession redeems them all. We may turn to the features and be repulsed, but we look upon the eye and are fascinated; we turn to the former, and a light and a beauty radiating from the latter, lend them a grace and glory, not their own. In the apostrophe of Mrs. Hemans:

"Throne of expression! whence the spirit's ray
Pours forth so oft the light of mental day,
Where fancy's fire, affection's melting beam,
Thought, genius, passion, reign in turn supreme,
And many a feeling, words can ne'er impart,
Finds its own language to pervade the heart;
Thy power, bright orb, what bosom hath not felt,
To thrill, to rouse, to fascinate, to melt?
And by some spell of undefined control,
With magnet-influence touch the secret soul!"

If such is the power of the eye, when lighted up with genius, when purity and truth are mirrored there; what must it be, if that light be darkness; how profound the gloom! One pair of eyes, I shall ever remember, and I regret to say, their owner was a woman! It is long since I met their gaze, but even now, as I think of them, an indefinable feeling of uneasiness and fear steals over me; such a feeling, as some contend, warns a sleeping person, that one is standing by him, and looking intently upon his closed lids. It was not that those eyes were brilliant, or black, or piercing; but it was something, for which "coats and humors" could not account; of which the oculist, *professionally*, knows nothing. It always seemed to me as through a spirit-cloud, dark and fearful, and freighted—*how*, I dare not say, rested heavily upon those orbs and weighed them down. Now and then, I saw lightning-flashes there; not like the purifying principle, that consumes the noxious exhalations which taint the air, but scorching, withering gleams, and when I saw them, I must confess I thought those eyes their most befitting home. It is impossible for me to convey, by cold words, laid out corpse-like, upon this page, any adequate idea of the language which loomed gloomily out, at those mental casements. She smiled sometimes, but *such* a smile! It seemed as if her real, laughing muscles, (*Zygomaticus minor*,) were refractory, and her sneering, contemptuous ones, (*Mastoideus* and *Depressor anguli oris*,) remarkably obedient, and fairly pulled down the angles of her mouth, despite the utmost contractions of their antagonists. There was no mistaking the expression; a benevolent smile did *not* sit gracefully upon her dial-plate.

To the different species of laugh, combining as they do, vocality and visibility, I will allude hereafter.

Some individuals possess a greater command over their

muscles than others. Garrick, an English comedian, of much celebrity, of whom it was quaintly remarked, that he made an *alphabet* of faces, possessed this command of his muscles in an eminent degree. It is related of him, that passing along the street one day, and observing a hackney coach standing at the corner, awaiting passengers, as is usual in large cities, he hailed the driver, inquiring, if he had made out his complement. "No, sir—get in," was the prompt reply; upon which Garrick speedily appropriated to himself, one seat in the empty coach. Presently, another man presented himself; another, and another entered the carriage, until the driver, supposing the seats were all occupied, prepared to drive off, when a man, panting for breath, (books and umbrella in hand,) hailed him with "stop, driver! another passenger," and had already seized the door, when he was coolly informed that he could not be accommodated. He reiterated loudly, that there was room enough for half a dozen; as is often the case, a great altercation about a little matter, ensued, the driver constantly affirming that there was no room, and the tenacious would-be passenger, as often giving him the lie. At length the driver dismounting in a rage, looked into the vehicle, when lo! to his infinite chagrin and astonishment, he saw nobody but our hero snugly ensconced in one corner, quietly awaiting the result of this strange controversy. This was totally incomprehensible to the poor coachman, but we can easily solve the mystery, by our knowledge of the muscles. Garrick, loving laughter more than he did the interest of the coachman, had, through an expressive countenance, succeeded in passing for five different individuals, in the space of half an hour, oddly illustrating the motto of our national banner, "*E pluribus unum*," from many, one.

The power of the countenance in enforcing the words ut-

tered, and in expressing many ideas without the existence of artificial language, has been known and acknowledged in all ages. The Greeks recognized this power in their fabled Medusa, whose head was covered with snakes instead of hair, and whose glance transformed the beholder into stone.

In the light of the preceding explanations, may we not reasonably conclude, that the "mark" which the Almighty set upon Cain, the first murderer, was only the shadowing forth in his countenance, of the dark passion and conscious guilt, and ceaseless apprehension, which must ever agitate the bosom of the fratricide? Such is the inimitable mechanism of the nerves and muscles, as the instruments of natural language, exhibiting in every line, the wisdom and benevolence of their Author. The spirit's own harp, every string is tuned by her, and thrills to each touch of immaterial thought. So simple, and yet so complicated is its structure, that it gives forth different tones of feeling, with so slight physical variation that even the painter's pencil cannot catch them.

When Peter of Cortona, was engaged on a picture for the royal palace of Petti, Ferdinand II, particularly admired the representation of a weeping child. "Has your Majesty," said the painter, "a mind to see how easy it is to make this very child laugh?" The king assenting, the artist, merely depressed the corner of the lips and the inner extremity of the eyebrows, when the little urchin seemed in danger of bursting his sides with immoderate laughter, who, a moment before, seemed breaking his heart with weeping.

The child of six years old, when engaged in carrying out its little plans, is, in countenance and gesture, as truly an orator as the old Athenian or the silver-tongued Roman.

Wonderful indeed is the instrument of expression! From the parted lip, dimpled cheek, and confiding eye of the infant,

(*infant** in all else I mean,) to the joy-flush and the hope-gleam, that glow and play upon the countenance of the youth; from the heaving bosom, the throbbing temple and the care-written brow of the middle-aged, to the last thrillings of the instrument beneath the spirit's touch, as it quivers upon the bloodless lip, tinges the sunken cheek, and gleams with an unearthly brilliance from the fast-glazing eye of the gray-haired, dying man, as if, just then, like some mountain's peak, it had caught the glory of the coming day, whose bound he is rapidly nearing; through all this, up to the moment when, laying down the old, worn harp, he awaits the time, when he shall strike a new and more glorious instrument of like pattern, but of *imperishable* material, this specimen of matchless skill, has been a companion faithful and true! Who can help exclaiming, in the well known words of the poet?

"Strange that a harp of thousand strings,
Should keep in tune so long!"

* Literally, not speaking.

CHAPTER X.

External apparatus of insects—The gnat—The cicada—The house cricket—The rattlesnake—The death-watch—Natural language of cries—Voice—The larynx.

The external apparatus by which certain animals are enabled to express their feelings to one another, now claims our attention. The individuals which are thus endowed, are comparatively few in number; and but little diversity is exhibited in the mechanism of their organs of language.

This medium of communication though audible, cannot be considered, strictly speaking, as *vocal*, for such a language presupposes the possession of lungs and a larynx, which is not found in those insects and reptiles that are thus furnished with *musical* apparatus, as I have chosen to designate it in the table.

Among the myriad tribes that dance so gaily upon the yellow beams of the summer sun, no insect is better known than the gnat. From the days when Spenser sung,

> "Their murmurring small trumpets sownden wide,
> While in the air their clust'ring army flies,"

down to the present time, the gnat has been considered the very chief of ephemeral trumpeters. Indeed the compliment is not undeserved, though a moment's thought will convince us that the soft music which floats upon the still air of evening, from invisible hosts, is not vocal, but strictly *instrumental*. The various shape and texture of their wings, and their unequal rapididy of vibration, as they thus fairly *beat the air into melody*, are amply sufficient to account for the variety of tones from the banqueting note of the moscheto, to the

dronish hum-drum of the stag-beetle; one, which even a delicate ear cannot fail to detect.

Among the "quivering nations," the gay midge, a species of gnat, may be mentioned, that, with jetty coat and snowy wings, dances its little life away to a piping note, similarly produced. Of the same description are the hum of the house-fly and the ordinary buzz of the bee; but I have not alluded to these insects, because the sounds thus produced, can be considered as a species of language, but rather, to refute a popular error, which the expressions of some authors, and especially poets, would tend to confirm. But when I speak of the death-watch or ptinus fatidicus, of the cricket, of the Pulsatorium or tick-watch, I would be understood as having immediate reference to *language*. The death-watch, whose measured strokes of seven, nine or eleven, have often been the signal for a hasty evacuation of the premises, of which the ill-omened creature has taken possession, produces those sounds by rearing itself upon its hind-legs, and then striking its horny frontlet against some hard substance. This midnight tattoo, is simply the language of courtship, which these little creatures employ. And why should *they* be slandered, for, availing themselves of a privilege which their neighbors who are so much annoyed, are far from undervaluing? They may be heard during the day, talking in this manner most amicably. The goat-chaffer or cerambyx utters a shrill shriek of fright, by rubbing its chest against its wing-shell. One of the most interesting instances of sound, not to say voice, produced by animals not having a larynx, is found in a species of Italian grasshopper. The musical apparatus of this insect, consists of several winding cells, separated into apartments by membrane partitions, (a white, thin net-work,) having two narrow openings communicating with the air,

which are closed by valves. In the centre of these cells or passages, is a sonorous triangle. Connected with the valves are two strong muscles, by the action of which, the cells are supplied with air, which is forced so powerfully against the triangle, as to produce the loud, clear notes of the grasshopper's song. The music of the cicada was extolled by the bards of olden time, in no measured strains, and the eloquence of Plato suffered, only in comparison with the soft melody of the tettix. Xenorchus, the Rhodian poet, alluding to the silence of the female, has this very ill-natured and ungallant couplet:

"Happy the cicadas' lives,
Since they all have voiceless wives."

Whether he was or not, he certainly *deserved* to be a bachelor for life.

The singular apparatus in the tail of the rattle-snake and western Massasanga, though generally considered as a sort of warning to the unwary pedestrian, is strictly an instrument of language, not so much for the welfare of its mortal enemy as its own. That its sharp rattle, sounding from the grass, beats a quick retreat for the stroller, is undeniable, but at the same time, no such benevolent motive, actuates its owner; for it is none other than an alarm-signal, or a means of communication with its lovely companions.

There is one little creature, however, which those who cherish the recollections of childhood, would scarcely pardon me for omitting in this sketch: the house cricket. How does its very *name* unlock the sealed fountains of our simpler, but I hesitate not to say, purer affections. How often, when the bustle of the day was hushed, and the twilight hour flung its soothing influence over us, and made us thoughtful; and the tea-kettle, suspended from the topmost hook, hummed its mo-

notonous but lulling song, have we listened to the lively chirp of the unseen cricket, beneath the hearth; and when perhaps, its long feelers and glossy head appeared for an instant at some crevice, with what strange interest did we gaze upon the little hermit. When the winter's fire was heaped, and crackling and blazing, it threw its cheerful light to the farthest corner of the spacious kitchen, and the laugh echoed round, still would the cricket's glee, the one note of its little life be heard over all.

Happy are you, if you can say, that no loved voice, with which that song was mingled, is now stilled in death.

The sound which the cricket produces, probably suggested its name, resembling the syllables "cree, cree." It is not produced by an apparatus similar to any which has been described, but by beating its wing-cases together, as a boy claps his hands when rejoiced. I cannot close my remarks upon this little insect, more appropriately, than by quoting a stanza, which, though unknown to fame, is true to nature; for upon whose ear so dull, does its vesper-song ever pall?

"Sprightly cricket, chirp *again!*
The crackling faggots briskly blaze;
Prithee, quit thy dusky den,
Sing in *light*, thy merry lays!"

With these few examples of the external apparatus of language, I leave this part of the subject. I know not what effect, the formidable array of insects and reptiles which I have so frequently marshaled for your inspection, may have produced, but I sincerely hope that it has been no injurious one.

Allow me now to direct your attention to another, and perhaps the most interesting species of natural language; to that produced by the organs of voice. Nothing in the material world, so quickly arrests the attention, or so deeply affects

the heart, as vocal sounds, whether produced by the dog,

"That whines a welcome home,"

or the desolate note of the bird that mourns its lost offspring, or the inarticulate carolings of the happy child. This exquisite sensibility to sounds, has its origin in the innate sympathies of our nature, and the beautiful structure of the organ of hearing. Indeed, to a superficial observer, it would seem that we need go no farther for an adequate cause, than the very formation of the avenues through which perceptions of the external world are acquired. Light, that subtile element, ever flowing from the sun, and reflected from every object in nature, accurately and instantaneously limns, upon the delicate nerve of vision, an ethereal copy; so spirit-like, we can almost think it immaterial, and we only know it to be matter, as we are able to perceive it by a physical sense. On the other hand, the impressions made upon the ear are of a different and grosser nature. Sound seems to advance farther into the earthly portals of the mental palace, and to claim admittance with a sort of *materiality*, of which we are not so sensible in the case of light. We can feel it in the rush of air upon the discharge of a piece of heavy ordnance, and in the rapid vibrations of the blown flute; and we can *see* it—its *effects* at least, in the quiverings of the church bell. This, together with the fact, that every vocal sound, whether articulate, or inarticulate, is in itself a language, either naturally or conventionally, lends so much more of interest to audible than to visible impressions. Every undulation of sound bears with it, an element of emotion, feeling, or passion, which diffuses itself throughout the whole volume, tinging every tone, regulating every cadence, and giving to the sound itself, its own peculiar quality. Upon this natural conformation of the voice to the feelings, is founded a natural, vocal language.

It is now proper to examine the mechanism of the organs of voice; together constituting an instrument, which has excited the wonder, and elicited the admiration of men in all ages of the world. Strange, indeed, would it be, were *one* such instrument all that could be found in a town, a county, or even a state, if musical amateurs, and scientific men did not visit it; if descriptions of its construction did not find place in the manuals for our primary schools, and accounts of its tone and power fill the columns of our public journals. How *passing* strange is it then, that when its melody salutes our ears from rocking spray and bending bough, by night and by day; when every individual possesses such an instrument, as a part of his system, of which no one can deprive him, that very many live, and live long, and *die*, ignorant of its construction, ignorant of its power!

Milton terms the human face, divine, and well he may, for the complicated and peculiar mechanism of the facial muscles, for the purposes of expression, cannot fail to strike the comparative physiologist. In other animals, the function is distributed over different parts of the body, and we as readily look elsewhere for indication of feeling, as in the face; in the game cock, at the ruff of feathers about the neck; and in the lion, at the bristling mane; but in the man, they seem concentrated in the countenance. The inimitable net-work of the skin, and the exquisite variations in color, of which it is susceptible, seem especially to fit the human face, for the Spirit's own telegraph. As the screens upon which the artist traces trees and shrubs, with chemical preparations of cobalt, are invisible, except they are placed near the fire, when each bud and leaf and flower, takes on its peculiar hue, with a rapidity more magical than the opening of a Lapland spring, so when that ethereal spark within is kindled, the face betrays

in each glowing line and eloquent feature, what, indeed, it was never designed to conceal.

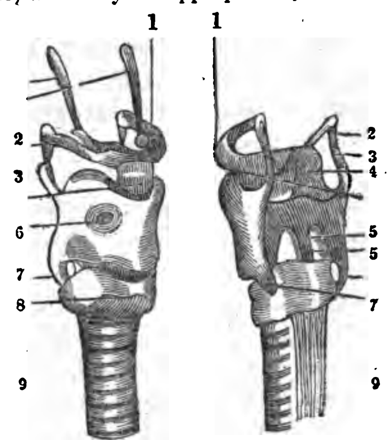
But whoever contemplates *this* organization, made of dust, it is true, controlled by muscles, and under the influence of mind as the other is, but productive of sounds which embody in their tones, thought, feeling, *soul itself*, if he, possesses a cultivated ear, and a heart exquisitely alive to the impressions made upon that organ, can unhesitatingly change the line of the blind bard, and pronounce the human *voice*, "divine."

An individual accustomed to observe, though ignorant of the construction of the physical frame, cannot withhold himself from the conclusion, that the mechanism of organs capable of producing such a vast variety of sounds, must be inimitable. Indeed, as an *instrument*, capable of every variety of sound, from the low, deep bass, which the organ vainly strives to excel, up to the highest notes of the octave, the organs of voice must ever remain unequaled. Rivaling the "soft-complaining flute," and surpassing the "ear-piercing fife," it combines the clarion's mildness with the soul-stirring energy of the trumpet's tone. But as a splendid manifestation of the wisdom of God, it demands our admiration and gratitude—who, when He would make us *social* beings, bound us by this chain so wonderful, that while stern necessity forbids us to sever it, an enlightened love of happiness impels us to draw more closely and polish and strengthen it.

Voice then is sound produced by the action of certain organs, in a great measure tuned and controlled by the mind, through the nerves, and these again acting upon the muscles; and voice, is also the material, of which artificial vocal language is made, by the movement and contact of certain or-

gans of the mouth which will be considered, in connection with the analysis of alphabetical sounds.

Here are two views of that wonderful instrument, the voice-machine, as it may be appropriately termed:



1–1 *Os hyoides,* or U-shaped bone. 2–2 *Cornua,* or horns of the os hyoides. 3–3 Superior horns of the thyroid cartilage. 4 *Epiglottis,* or valve of the wind-pipe. 5–5 *Arytenoid,* or funnel-shaped cartilages. 6 *Thyroid,* or shield-like cartilage, or *Pomum Adami.* 7–7 Inferior or lower horns of the thyroid cartilage. 8 *Cricoid,* or ring-like cartilage. 9–9 *Trachea,* or wind pipe.

Such is the general construction of the Larynx, composed as we have seen, of five elastic cartilages, articulated or jointed together by those projections called horns, and securely bound by ligaments or cords. These cartilages are moved by seven pairs of muscles, which acting separately, in pairs, or in combination with the whole, are capable of producing more than sixteen thousand different movements. These muscles, however, though possessing such wondrous

power, are but a few of the active agents in the production of the voice. Fifteen pairs attached to the cartilages or os hyoides, are constantly employed as antagonists and directors, and these, when co-operating with those previously mentioned, are susceptible of 17,592,186,044,415 changes! This is not all; taking into consideration the different degrees of velocity and force with which they are brought into action, varying so materially the quality of the voice, the list of changes would be almost doubled. The facts are not *yet* told! All the parts that act upon the air, either directly or indirectly, and all the muscles that receive nerves from the respiratory system, are called into action in the production of voice; and when we remember that every movement of the machinery, produces a variation of sound, in some particular, the power of the organs of voice, becomes almost inconceivable. Such, reader, SUCH is the mechanism of an instrument which

——"the wealth of Ormus or of Ind,"

could not procure for him who does not possess it, and of which the poorest peasant cannot be deprived, by his relentless creditor.

These organs combine in their construction, the Eolian Harp, and the valvular or key trumpet or common flute; but perhaps as the lungs act as bellows in propelling air through the instrument, some part of it may, with greater propriety, be compared to a church Organ. The wind pipe or trachea, (9) is the tube through which the air passes to and from the lungs in the act of respiration. It is formed chiefly of imperfect rings of cartilage or gristle; the opening behind, however, being closed up with other parts, in order that there may be a perfect tube. These rings being elastic, serve to keep the tube always open, while their flexibility accommodates it to any position of the neck. Some instances are re-

corded, in which this tube became ossified, viz: changed to bone, in which case, the mode of capital punishment in this country, would not destroy life by strangulation. This is the pipe to the bellows or lungs, and they together constitute the *organ* part of the vocal apparatus.

The wind pipe is surmounted by a triangular box, of the same material as the tube, the greater prominence of which, in the man, constitutes the difference in the neck of the sexes. This box is called the Larynx, better known to many, by the name of Adam's Apple, from an old story with which every body is familiar, that when Adam attempted to swallow the forbidden fruit, it lodged in his throat, and is thus transmitted to his posterity, as a memorial of his fall. At the upper edge of this box, is attached a bone, in the form of the letter U. It serves to keep the Larynx constantly open, and also for the attachment of several muscles for the contraction and dilatation of this box, which alone is the seat of the voice. Just below the epiglottis, (4) is a simple slit or chink, the diameter of which, is graduated by a number of very delicate muscles, which, together with those that increase or diminish the size of the Larynx, answer the exact purpose of the finger holes in the flute.

The base of this instrument is the Cricoid cartilage, (8) so called from its resemblance to a seal-ring, the broad surface of which is visible in the posterior view. The target-like figure on the front part of the thyroid cartilage (6) is intended to represent the Pomum Adami, constituting the boss of the shield. The Epiglottis is a valve which may be seen by depressing the tongue. This beautiful cartilage is attached to the thyroid, the os hyoides and the base of the tongue; it is emphatically a *safety* valve, for it closes the glottis while in the act of swallowing. How unreasonable for one to sup-

pose that he can talk and eat simultaneously with impunity! The arytenoid cartilages (5–5) and the mechanism connected with them deserve particular attention. Here we find the mouth-piece or reed of the instrument—the curious ligaments of the *rima glottidis* or chink of the glottis. On examination, we discover two clefts; the superior one is ten or eleven lines in length, and two or three in width, of a triangular shape. Two folds of the mucous membrane which lines the interior surface of the Larynx, are extended from the arytenoid cartilages to the epiglottis, and are called the superior vocal cords. A short distance below, is an opening of similar shape, extending from the thyroid cartilage in front, to a muscle which unites the arytenoids. Along the sides of this aperture also, two ligaments are stretched, appositely termed the inferior vocal cords. These delicate harp-strings may be relaxed or made tense by the action of several little muscles, answering the purpose of keys in a violin. Now, in the simplest form of the Eolian harp, fine silken threads are extended upon two bridges, an inch or two above a board, prepared for the purpose. When this is placed in the window frame, with the sash brought down nearly in contact with the strings, the passing breeze causes them to vibrate, producing musical sounds, high, low, soft and loud, in proportion to the tension of the strings, and the action of the air. Here, then, is the *Harp* part of the instrument. Experiment has conclusively shown that these cords and the intervening space, are the essential organs of voice; that previous to the production of a single sound, the chest must be compressed, the glottis adjusted, the larynx elevated or depressed, and the pharynx* contracted; that the muscles of expiration act, and the

* Tube by which food is taken into the stomach.

air is propelled into the larynx; that the key-muscles adjust the cords properly, and the air receives the vibrations, whence sound results, and last, though by no means the least important, that volition controls the whole; for, if this were not the case, every contraction of the chest, and consequent expiration of air, would be attended by a sound, as is the action of ill-adjusted machinery.

The larynx is the only organ necessarily employed in singing, and the chief instrument in all natural language; and it is not improbable, that the ruder forms of *artificial* language were spoken mostly from the throat, as indeed the dialects of the American Indians indicate, for a child will hardly fail to observe that the Aborigines rarely bring the organs of their mouths in contact, in speaking their own languages. For example, take the following names of persons and places: Opecancanough, Onondaga, Yonondio, Kekataugh, Kaihohage. The language of the South Sea Islanders abounds so greatly in vocal or glottis sounds, that they cannot pronounce a word loaded with mouth-sounds or consonants. As a specimen, the name of one of their kings may be mentioned: Ta-ma-ha-ma-ka! From a knowledge of these facts, you will more readily understand how an individual might employ artificial language, sing admirably, and still be destitute of a tongue; many well authenticated accounts of such instances are recorded, from the earliest age to the present; but it is unnecessary to give them in detail. Deprive man of the larynx, and communities would be bound by a slenderer tie; the song of praise would no longer be wafted on the morning or the evening breeze; the social circle dissolved, man would wander over the earth, distrustful of his fellow; the nobler sentiments of his nature locked up in his own bosom, and the plaint of want unsupplied, the lamentation of

unalleviated distress, and the exhibition of passion would be his only language.

It was remarked that the inferior vocal cords were essential to the production of voice; by blowing through the wind pipe of an animal, soon after it is slain, you can produce a sound very similar to the natural voice of the animal, if the larynx remains uninjured. Two quadrupeds, the Ant-eater and Pangolin, a kind of lizard, found only in Hindostan, are entirely dumb. Upon examination of the former, it was found that the wind pipe was unusually short, and the upper part of it, the proper region of the larynx, instead of cartilage or gristle, was a structure of unyielding bone, which sufficiently accounts for the silence of the animal.

CHAPTER XI.

Vocal apparatus of birds—The Mocking bird—Ventriloquism—The voice as indicative of feeling or emotion—Various Illustrations—Laughing—Whispering—Sighing.

Voice, as we have defined it, is common both to man and the inferior animals, though varying in quality, from the lay of the nightingale to the hiss of the serpent; from the clear melody of the lark, to the discordant shriek of the raven.

A little observation will teach us, that there must be a great difference in the structure of the vocal apparatus in different animals; a difference nearly proportioned to the diversity in the description and quality of the sounds which they are capable of producing. It is from some peculiarity in the formation of the larynx, that the voice owes its quality

or tone; it is by some difference in this organ, that animals are enabled to make those peculiar sounds which characterize them, and to purr, as the cat; neigh, as the horse; bark, as the dog; roar, as the lion; squeak, as the mouse; or low, as the ox.

The larynx of the feathered race is peculiarly adapted to form that sweet and varied music, emphatically the poor man's minstrelsy, which so often makes our woods and fields "*vocal*, with concert of sweet sounds." The immense power of voice, with which the feathered tribes make the forests ring, has often been a matter of remark and astonishment. Our astonishment is changed into admiration, when we learn that the lungs of birds are connected with aerial cells, which fill the whole cavity of the body; that, more than this, the very bones are hollow, communicating even with the quills, so that a bird's entire physical structure is nothing more than a living instrument of exquisite workmanship.

The bagpipe is a musical wind instrument, much used by the Highlanders of Scotland, in the performance of their wild but pleasing airs. It consists of a leathern bag communicating with the air by a tube closed with a valve, and pipes of different caliber, into which the air is forced by the performer. The lungs, trachea and larynx of birds, form a complete natural bagpipe; the lungs are the bag, and supply the wind, and the trachea and cells are the pipes. The larynx of birds is divided into two sections; one being placed at the lower part of the trachea, immediately above the branches to the lungs, and the other occupying the usual position. The lower opening, then, is the reed or mouth-piece, which produces the simple sound, and the upper opening, with its muscles, constitutes the finger-holes, which modify the simple sound into a variety of distinct notes.

We find, however, a considerable diversity in the shape and length of the trachea, but of this, it is not necessary to speak. The notes of soft-billed birds are deeper and more mellow-toned than those of the hard-billed species, which are cheerful and rapid. This is owing to the greater width of the trachea in the former class, and the fact that they sing more from the lower part of the throat, as does the nightingale.

Perhaps there is no bird more entitled to our notice, from the vast scope and variations of its voice than the many-tongued, or Mocking bird. Indeed, I thought a delineation of this feathered ventriloquist, worthy a place in these pages. Here it is:



The natural note of this bird is delightfully musical, but beyond this, it possesses a talent for imitating the notes and cries of other animals, so exactly, as to deceive the very individuals that it attempts to mock. Imitating the warblings of

little birds, it decoys them near it, and then pouring upon them, the screams of the hawk or some other bird of prey, drives them away with all speed. Does the school-boy whistle some familiar air, as he saunters along the copse-lined path? He starts at hearing the merry measures of "Yankee Doodle," returned, as accurately as a very echo, from the neighboring thicket. Does the laborer trundle his creaking barrow over the rough ground? *Another* vehicle equally clamorous, swells the concert, creaking and rattling along, apparently in the adjacent swamp. In short, the Mocking bird is the wag of his race and the pest of his neighbors.

The most extraordinary instance of imitation in the *human* voice, consists in the art of ventriloquism. By this, the practitioner can so modify his voice, as to imitate the different tones of several persons conversing at a distance, and not only to imitate the cries of dogs, cats, and almost every other animal, but also to throw the sound from whatever quarter he chooses. Now issuing in smothered accents from beneath the floor; now of individuals engaged in violent altercation, in the recesses of a side-board, and now, faintly imploring release from a quart bottle standing upon the table.

An individual is said to have amused himself, several years ago, by frequenting the fish-market at Edinburgh, and making a finny captive appear to speak, and give the lie to its vender, upon her affirming that it was fresh and caught in the morning; the fish replying, as often as she made the assertion, "*I have been dead a week*, and you know it!"

Ventriloquism has given rise to a variety of superstitions among those who are ignorant of the power of the vocal apparatus, and the great skill which may be attained by practice, and perhaps in some instances, aided by a peculiar formation of the Larynx and its accompanying muscles. Ven-

triloquists themselves, have attempted to explain it, but have never been successful; and though the name, ventriloquism, is still retained, it is by no means applicable, meaning, as it does, "chest or abdominal speaking." That this art is of a date as ancient as Grecian and Roman glory, employed in the temples of their Gods, to give the responses, apparently issuing from the marble lips of the idol, cannot be doubted.

The scientific, at the present day, seem to coincide in the opinion, that a peculiar formation of the vocal organs, is not absolutely essential. Indeed, a careful examination of the subject, convinces me, that the full, free and daily exercise of *this* part of the physical system, with a view to its development, is attended, (as it ever *has* been,) with results far more wonderful and important than any of which the ventriloquist can boast; that it gives depth and tone to what is naturally the mere shadow of voice; that it transforms the distressed stammerer into the eloquent orator; that it adds strength to the strong; quickens hesitancy and difficulty of utterance, into readiness and facility, and almost unlooses the tongue of the dumb. We are acquainted with men, who, from a close attention to the vast variety of articulations and tones, and from a perfect command of the muscles of the Larynx, are able to produce acoustic delusions, not less extraordinary than the identical jugglers themselves, and this, too, without laying the least claim to be considered ventriloquists. The celebrated Alexander could imitate three persons in conversation, and so skilfully swell and diminish the sounds, as almost to compel you, against the evidence of your eyes, to believe the speakers, now approaching, and now receding. Our appreciation of the distance and nature of a sound is formed from its intensity and quality; thus a deep, heavy sound, gradually increasing in

power, gives us the idea of strength and proximity. For this reason, persons are frequently alarmed at a peal of thunder, though its cloudy home may be ascertained to a mathematical certainty, to be many miles distant. So when the sound from a known body, is more faint and indistinct, than when in our immediate vicinity, we are impressed with the idea that it is far off. As when the mountain or the forest only presents a dim outline to the eye, we are assured that many steps must be taken, ere we reach it, so indistinctness of sounds produces a similar impression. Of these principles, the ventriloquist avails himself, and by a skilful management of his voice leads us at once into error. Imagination also, may have a considerable influence in producing the desired effect. Dugald Stewart gives some striking instances. Among others, he mentions a certain violinist, who directed the attention of his auditors to the instrument whence he seemed to draw out the delightful sounds, with many a dexterous flourish of the bow, while in fact, every tone proceeded from his own mouth. Mr. Carey, who imitated the whistling of the wind through a crevice, sometimes practised the deception in the corner of a coffee-house, when to his great amusement, one gentleman would put on his hat; another button his coat, and a third, perhaps, would look about with the evident intention of shutting out the intruder that so annoyed him. In the former instance, the eye assisted to make the delusion perfect; in the latter, the association between the sound of the fitful gust and a sensation of cold, was so strong, that one was almost a necessary accompaniment of the other. With regard to the hollow tones of the ventriloquist, which the ignorant deem supernatural, Brewster remarks that they are produced by a powerful action of the abdominal muscles. Ventriloquism, then, may be considered as

an imitative art, which, though often discovered accidentally, may be acquired by nice discrimination, and long practice; sufficient, at least, for all purposes of effect. To the use of the *crescendo** and *diminuendo*† as they are termed, musical composers frequently resort.

In the sweet little song of Bishop Heber, commencing,

"I see them on their winding way,"

they might be introduced with beautiful effect. Indeed, if I remember aright, they actually *have* been, but however this may be, no one can entertain a doubt that such sounds would infuse into certain passages, a life and a beauty otherwise unknown; sounds, which I do not hesitate to say, rang in the spirit's ear of the sainted Heber, forming no small part of the beautiful conception.

The voice is affected by the climate. The mild, soft airs of Italy, seem to lend it their own sweetness, and the cloudless Italian skies, to give somewhat of clearness and beauty to the tone. In the

"Thrilling regions of thick-ribbed ice,"

the voice harsh and guttural, seems to shrink into the throat for shelter, presenting a contrast as striking, as the howling blasts of perennial winter, and the gentle zephyrs of the sunny clime. The general health also, is not without its influence; for a peculiarity in the tone of the voice, not unfrequently betrays to the physician, the nature and seat of the disease which afflicts his patient. The *breaking* of the voice, as it is termed, of lads at a certain age, results from an enlargement of the vocal organs at that period, which, indeed, nearly doubles their size. Beside these, many other agents might be mentioned, which are constantly acting, to modify

* Gradual increase of sound. † Dying away of sound.

the voice; not to include the *radical* difference in quality, arising from the varied formation of the vocal organs, without which, the animate world would present one fearful scene of confusion and misery. But there are influences more important than one, or all of these combined; influences which are exerted during every moment of conscious, social being; ever varying the tones and modulations of the voice; now endowing it with terrific depth and power, and now *shading* its tones with terror; now making it flutter with agitation, and now lightening and quickening it with joy. This moment keying it to the high note of exultation; and the next, depressing it into the deepest recesses of the chest, with grief. Thus every feeling and emotion in the man, and every tumult of passion in the brute, is breathed forth in the voice.

Three descriptions of voice are possessed by almost all animals, having a Larynx; viz: one formed in the chest, and called by the Italian, the voce de petto, or voice of the breast; another, which is the natural tone, without the depth and strength of the former; and third, the voce de testa, or voice of the head. From the relative position of the organs which particularly modify them, they may properly be termed the lower, middle and upper voices. Indeed, there seems to be a peculiar coincidence between the internal state, which the employment of these voices, severally discloses, and the physical organs which are employed in their production. The lower voice, the proper tone for the expression of deep sorrow, pity, love, in short of all those milder passions which, though they take strong hold of the heart, are not exhibited in the wild, and ungoverned outbursts of sound which characterize excessive joy and exultation, whence could it more appropriately and naturally spring, than from *that very heart*, which is, as if the gushing fountain, whose wealth is to
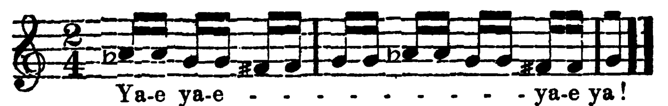
freight the gathering sound, and give it significance and power? Again, the ordinary voice, the medium of every-day intercourse, rather resembles the smooth flowing of the unruffled river, than the dashing, foaming cascades at the fountain head. The voce de testa, is the voice of joy, rage and anguish. It is sometimes called the falsetto or feigned voice; and being so far from the heart, why should it not be thus termed? Indeed, it is more readily assumed than its extreme, the voce de petto. Mr. Gardiner tells us, that once when passing the market-place, where a criminal was receiving the reward of his crimes, in a liberal application of the lash, his ear was saluted with the cries which the man designed to be expressive of intense suffering. Mr. Gardiner, however, was convinced that the tones were simulated, and upon inquiry, actually found that the criminal had expressed a willingness to suffer a like castigation, for the paltry sum of half a crown.

From this influence of feeling and passion upon the tones of the voice, natural vocal language derives its peculiar power and expression.

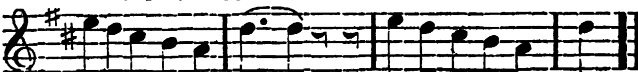
Every one is prepared to acknowledge its existence in individuals of his own species; every one has heard and felt it in the *crowing* (I know of no better term) of the very infant, that has not yet learned the imitative language of its fellow-beings; and what mother has not felt the sympathies of her heart awakened, by the low, wailing tone of her suffering charge? Who has not been amused at hearing the inarticulate language of joy and sorrow; of quarrel and reconciliation among young children? And who would not detect, in the following notes, the voice of a spiteful child wantonly teazing its little mate?*

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* For the music which is introduced, I am indebted to Gardiner's Music of Nature.



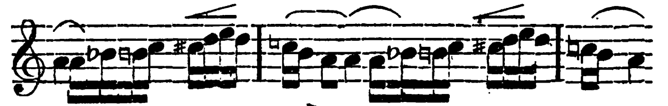
This humor, which I regret to say, is sometimes evinced by "children of a larger growth," speedily passes away, and then, as they play happily together, how changed the tones!
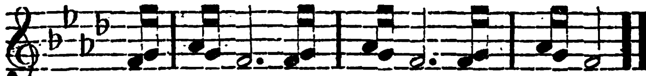


Many a mother's ear has been saluted with sounds like the following, from some petted, and of course half-spoiled child:



Now she resorts to the natural language of endearment, which a mother best knows how to employ:



What makes the chords of sympathy thrill like the tones of grief?



With such expressions of natural language as I have mentioned, and many others which might be named, every one is familiar. But when we attempt to give it an extent, commensurate with the possession of vocal organs, and more than this, to consider it, in some respect, the result of education or experience, and in another, almost conventional, the ridicule of some, and the stubborn disbelief of others, can nei-

ther discourage me on the one hand, nor daunt me on the other. Reader, I do not apprehend that *you* belong to either class, but rather, that you are one of those who adopt the motto, "read, reflect, and then judge."

Slight as is our acquaintance with the habits and dispositions of the animate world, there are but few individuals, who, at some period in life, have not noticed how frequently the voice is employed, and how varied the feelings which are thus communicated, even though their observatory may have been a barn, and the sphere of their observations, the limits of the cattle-fold or the pickets of the poultry-pen.

The wild scream of the wounded panther, sounding as if incarnate rage had *torn* it from his very throat, and the half-choking yell of the savage, are expressions of passion, to which no set phrase of speech can possibly give vent. Infancy and age alike quail before such terrific displays of passion's demoniac mastery. The tone of exultation in man, and the clarion-cry of the victorious game-cock, have been noticed by every one. How different from the exclamation of joy in the former, and the defiance-note of the latter!

The purring of the feline species, is the very language of contentment. Who can mistake the complaining mew of the houseless cat, for the deep, desolate tone of the same animal, as she wanders from room to room, seeking her little family, in vain? At last, when the anxious mother discovers them, snugly stowed away by some juvenile hand, in box or basket, who does not rejoice in the light, rapid tones that tell her joy, or feels ashamed to sympathize with maternal affection, though manifested by "the brute that perisheth." The chicken just escaped from the shell, twitters in joyful expectation, when a little fly is presented to it; but substitute a wasp, and its voice instantly assumes a tone of disapprobation and

alarm. Geese, too, slandered as they are; the creatures to which everything, otherwise incomparably stupid, is likened, even geese have language. In passing near their quarters, at night, when every loyal goose has carefully deposited her head beneath her wing, have you never observed a gander or two, on the alert, as gallant ganders *should* be, keeping watch? Did you not mark the peculiar gabble with which the white-robed sentinel saluted you, as if he said, "Stand! who goes there?" What a bustle in the camp; what a noisy conversation ensued, and how different the tone in which it was carried on! They evidently mistrusted the proximity of their ancient enemy, the fox. Then, as you passed on, making no assault, did you not distinguish another note still, expressive of returning security, which gradually died away, till the most loquacious had gabbled forth its last comment upon the averted danger? To such a midnight signal as this, did Rome's fortress once owe its preservation. Assault them in the day-time, and they will manifest their contempt, with a hiss as expressive, as the fifth act of a dull play ever called forth.

The cluck of the hen, with which she keeps her errant brood together; the low, persuasive tone with which she lures her little family under her wings; the cluttering note which announces the discovery of some hidden grain; the cry of alarm, at the appearance of the hawk, echoing from tenant to tenant of the feathered community, till the loud ko-e-ut, ko-e-ut of the turkey, and the harsh tone of the geese, swell the concert of fear, are all familiar sounds. What farmer's boy does not recognize the cackle of the hen when she leaves the nest, or when she brings off her brood?

When the swine falls into the merciless hands of the butcher, how different his voice from the complacent monosyllable
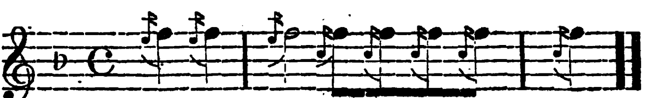
with which he does honor to the yellow treasures of the crib; and how readily every individual of the genus grunter, in the neighborhood, catches the cry, and comes hastening, with porcupine back, to the rescue.

The horse, too, understands the natural language of his rider, and the dog, the mood of his master. There is truth, as well as poetry in Pope's oft-repeated couplet:
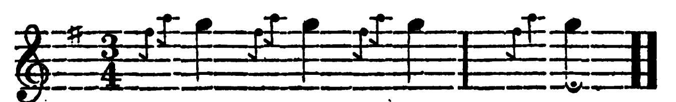
"The bounding steed you pompously bestride,
Shares with his lord, the pleasure and the pride."

A soothing sound allays his impetuosity; an encouraging one, curves his neck, and gives unwonted elasticity to his step; speak harshly to him, and how striking the contrast!
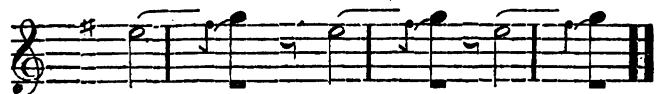
The language of the canine race, for the expression of their feelings, is more copious than is generally supposed. Without being misled by a fanciful conceit, we may reasonably conclude that his singular companionship with as capricious an animal as man is, may have wrought changes in his vocabulary. The howl of ferocity is forgotten, and as his disposition is ameliorated, and the savage wildness of his habits yields to the power of what, for want of a better term, may be called civilization, his language becomes proportionally mild. Your favorite dog is permitted to accompany you in your walk. As he frisks and gambols with excess of joy, hear him!



Take care! you have trodden upon his foot:



On another occasion, you have fastened him securely, in the barn. Untie the poor creature; listen to his expressive tones.



Such are a few, a very few of the expressions of natural language; drawn, not from the marvellous account of the traveler; not the fruit of wanderings in the forest, the desert, or the foreign land; but collected about home; *on the farm*, if you please, and for this very reason, should be thrice valued. While I firmly believe that the whole range of animated nature, presents a noble field for investigation, upon this subject; one, which long years of unwearied toil, would still leave half untraversed, and one, which I freely acknowledge I have not the ability to examine; yet enough has been said to establish the position, that even the bird in her nest, and the beast in his lair, possess an intelligible, natural language.

It now remains to speak of laughing, which, although it combines the language of the countenance, with that of the voice, may properly be mentioned in this connection. This expression of feeling, may, perhaps be considered as peculiar to man; indeed, some writers have designated him as "*the laughing animal.*" However this is, it is certain that *crying* would by no means distinguish him, for, though it has been frequently denied, yet we have the concurrent testimony of many respectable witnesses, for believing that tears trickle down the half-human face of the seal, when bereft of her young.

A little observation will convince any one, that a laugh is as frequently the expression of malevolence, as of any amiable or pleasurable feeling. Indeed a real thrill of joy is

more frequently attended with symptoms of weeping, than otherwise. There are almost as many varieties of laugh, as there are dispositions among men. To some of these, I will briefly allude. Hark! Hear that laugh in the street. It comes from one of that group of boys, "just let loose from school;" it means nothing, and that is the beauty of it. It is like the silvery sound of a crystal brook, leaping from ledge to ledge, dancing and rambling along over the smooth-worn pebbles, like some glad, innocent thing. Such a laugh conceals nothing, for there is no care there; no sorrow; no bitterness; it tells nothing, for the very *sound* is gladness made vocal. Will the child always laugh so, do you think? Will it never be changed into the suppressed exclamation, which tells of a fountain more bitter than Marah's waters? Who has not heard such a laugh; aye, and *felt* it too? O, for the branch that Israel's leader cast into the wave of old! We gladly turn from this to the good-natured, hearty laugh, that shakes the sides, expands the chest and banishes, far away, dyspepsy, and its horrid train. This laugh is contagious; every thing within hearing laughs too; men and women, rocks and hills. Then there is the laugh of mingled malice and exultation. Even this, the own begotten of depravity, is sometimes heard in the parlor and the drawing-room! I cannot describe it; neither is it necessary that I should; but I can fancy a horde of banditti, gathered around their fire by night, while its lurid glare throws every line and lineament, traced and scarred by passion, into bold relief; I can see them as they lean towards each other, absorbed in the fearful interest of some tale of horror, recounted by a comrade; I can see them, as with hungry eyes they seem to devour each precious word and syllable; and I can hear, yes *hear* that wild, demoniac shout; just such a shout as White's "twelve with-

ered witches" raised; and just such a shout, as I have heard in no realm of fancy, but among civilized, enlightened, christian men!

When you have been deeply interested in relating to a friend, something which you consider true and important; perhaps the result of patient study, which seems a treasure to you, and all the richer, because acquired by your own toil, have you never felt disheartened and chagrined, at that friend's reception of it? Not because he turned abruptly away; not because he expressed one unfavorable opinion, but because an incredulous smile lurked about the corners of his mouth or eyes, (for some people laugh with their eyes, you know,) saying with most gratifying emphasis, "*I doubt it.*" What a damper is such language to a man's zeal! Some people laugh, all to themselves, like a man who orders dinner for one; though an ungovernable chuckle sometimes escapes them, despite their selfishness. I knew a person who always laughed thus; and I used to fancy that he enjoyed it extremely; it seemed to linger so, about his heart. Washington was remarkable for this *inly* laugh, as it may be termed. There is no laugh more incompatible with frail human nature, than that of exultation, whether over another's woes, or on account of some real or fancied advantage; it seldom falls sweetly on the ear; and upon none so harshly, as of him who is its subject.

I can mention only one more example of this species of natural expression; and though it is an inaudible smile, I may be allowed to introduce it in this place. I do not hope to describe it; it is not an angel's smile. O, no, if it were that, I might say so. The dream-smile that flits over the little features of a sleeping infant, is most like it of anything earthly, but it is far more glorious, even than that. It is a

smile that thrills the soul of the beholder; it makes the frivolous, thoughtful, and the gay, grave. It illumines the countenance, but not with the light of the sun; a strange, fearful radiance; the soul-light from within, and the light of Eternity from without, are blended there. Do you know what smile I mean, reader?

In each of the various expressions, which I have just enumerated, there is some tinge of passion, or some mingling of bitterness, or some element of human frailty; but that to which I now allude, is purer, holier; mortal yet, the magic dial has flung its last earthly shadow, and only stays its dissolution for a moment, to reflect, what glacial-cliff nor silver lake has never caught—the light of endless day! That dial, reader, and that smile, are the countenance and the smile of THE DYING CHRISTIAN.

With this, I must close my notices of Natural Language. But when I review the preceding pages, I can scarcely recognize in the faint resemblance, the mental original, which sat for it. So dim in outline, so broken and confused in manner, it seems as if the interesting views and the valued thoughts, (interesting and valuable at least to me,) had been touched by the wizard's wand, as one by one they were transferred to the more during characters of legible language, and a heap of dry and withered leaves, alone remained, for the bright gold, of which I was the fancied possessor.

I am consoled, however, by the recollection of how slight a cause first awakened an interest upon this subject in my own mind, and how trifling the encouragement, which has stimulated me to investigation and lured me on, step by step, to the results of which this volume is only a tithe. Such remembrances, allow me to hope that I have not written in vain; that *you*, too, may be interested, instructed, and what is more,

induced to examine this subject for yourself. I need not tell you of the materials which are strewn every where around you, with a lavish hand; of the varied and delightful contemplations of which language is a worthy and ennobling theme; of the intimate relation which it sustains to our whole being, interwoven, as it is, with every thing that can enlist the feelings or touch the heart; with all that is called thought, and all that bears the impress of mind. I need not tell you, that consciousness will whisper approval from within; that the constant disclosure of new beauties and excellencies will proclaim success from without; that laden with the cares of a troublous life, you will, nevertheless, turn from time to time, to contemplate language, ever finding some field unexplored, some wide range untraversed; that thus it will be, till the last expiration shall sigh along the ethereal tube, of mind's *noblest* instrument, the Organs of Voice.

I need not particularize farther, for if you have put forth a single effort, for the acquisition of mental wealth; if you have advanced a single step into the great treasure-house of knowledge, you know that a new and more glorious creation sprang into being at that effort, heaved into view at that step, at first partly visible, but ever expanding with the dilating pupil of the mental eye, to what limit, who can tell!

PART THIRD.

LANGUAGE OF REASON.

CHAPTER I.

Man a mystery—How an artificial language is formed—Exclamations—Man a social being—Imitative language—Sounds—Scriptural account of the confusion of tongues—Illustrations—The original language—The western Indians—Tributaries to the English language—Its present vast extent.

MAN is emphatically a living, breathing mystery. Mystery is stamped upon his brow, written in every lineament of his countenance, elaborately traced in every delicate nerve and folded in every muscle. Mortal and immortal! This emanant from God; that springing from dust; this soaring to Him who gave it; that "earth to earth!" The perishable and imperishable are bound so intimately in his being, that, for what we know of the one, we are indebted to the other, and the crowning beauty of the former, is but the faint, feeble reflection of the latter. He is placed in this beautiful world, where every object, from the stars that illumine the nightly canopy, to the tiniest flower in the low vale, eloquently declares that the tenant and the dwelling are the creation of the same Almighty Hand.

Imagine this noble being, thus gloriously endowed, to be a man in stature, but an infant in mind, unacquainted with language, and a new comer upon earth. Let us suppose that no day has yet dawned upon him; that while he is attempting to discern

through the gloom, the objects which surround him, he perceives a line of light streaking the eastern horizon, waxing brighter and brighter, till in a moment, that luminary, whose appearance now occasions no surprise, the glorious sun, rises in full splendor above the distant hill. Nature flinging off her dark mantle, is clothed in light and beauty at his coming; from wooded hill and verdant vale, swell the glad matins of creation. Suppose this, and how strange the sensations which would throng in at the eye and ear of the new resident, and how tumultuous the tide of emotions which would heave his bosom! And do you think that he would gaze *silently* upon the scene? By no means. A loud, wild, extatic cry would burst from his lips, expressive of commingled delight and wonder and fear. And when he wandered forth over the fair earth, and scenes beautiful as a God could make them, riveted his gaze, and awakened his admiration, at every step—do you not think that the fast-peopling world within his heart, would find vent? That exclamations of wonder or terror or delight would not escape him, as one or another of these emotions was excited? These exclamations would be his only language—the unwritten language of the heart! The day has closed in, and the full-orb'd moon rides in majesty up the the lofty pathway of Heaven, and the stars gleam forth one by one. These objects are strange and beautiful, and similar exclamations may express the feelings of his agitated and expanding mind. Thus day succeeds night, and night follows day, and finds man ever wondering, ever learning. Time passes on; and now he stands by the cataract—the dash of the tumbling waters falls upon his ear, is communicated to his mind, and is remembered. The thunder of Nature's artillery shakes the cloudy vault; the bird whistles from the bough; the bee hums from flower to flower; the

serpent hisses from the grass; the stream murmurs and flows; these, too, are heard and remembered. What then? Man is a *social* being; his eloquent eye, his speaking countenance, his expressive gesture, *all* proclaim him such. He meets a companion, Nature's pupil as he is; they have admired the same scenes, beheld the same objects and heard the same sounds. All may be gloom and silence, but the *mind's* eye still sees, and those sounds still ring in the *mental* ear. Memory, true to her trust, retains them all. The waterfall, is suggested to him, and a sound involuntarily escapes his lips; it may be *dash* or *roar*, but whatever it is, it is an *imitation*, and by the assistance of gesture, is understood by his companion; the image of the cascade glows anew upon *his* mental tablet, and thus mind communes with mind, and thought awakens thought. Soon, other objects attract his attention; perhaps the qualities, perhaps the movements of bodies. Is it agitation? sway, swing, swerve, sweep, express it. Is it a gentle descent? then slide, slip, sling, or other words of similar sound, escape his lips. Is the forest tree prostrated by the blast, or rived by the lightning-stroke? crash and flash may express them both. If it acts more dully, the more obtuse sounds crush, brush, gush, are natural imitations. The liquid L, flows like the objects to which it is applied. The guttural C, is hollow as the cave it designates, or the croak and the caw that it imitates. The sound st, is *st*rong, *st*able, and *st*ubborn, as the objects to which it is applied. Thus man continues learning and multiplying terms, until as now, in the language of Blair, "the invisible sentiments of the mind are described by comparisons, and the most abstract notions are rendered intelligible; all the ideas which science can discover, or imagination create, are known by their proper names. Not only is it a medium whose employment, ne-

cessity imposes upon us, but an instrument of the most refined luxury." Such is the present state of language, and such has it been for a long period of time. Great and wonderful though it is, yet like the starlit Heavens, and the unfathomed ocean, it is *familiar* to our minds, and excites neither astonishment nor admiration. That such is the manner in which artificial language had its origin, in a rude and unenlightened age of the world, cannot be a matter of reasonable doubt. Too many traces of this principle of imitation are still found in all languages, with which we are acquainted, though modified by time, mingled with the accessions of all nations, the subtilties of philosophy, and the conventional and arbitrary usages of men. Whether language was at first the miraculous gift of God to man, is a question which has been much agitated by philologists, but their investigations have led to results, which, while they disprove the affirmative of this question, confirm decisively the truth of the position here taken. The Supreme Being endowed man with the *faculty* of language, but left him to exercise and develope it himself; and it is not more strange that an infant should thus acquire a language by imitation, than that a man should actually invent a medium of communication, which, as Wachter beautifully terms it, is only an "echo of Nature."

We have no time to indulge in idle speculation, like the Egyptian and Phœnician kings, relative to the original language, or like them, to institute any foolish experiment for determining to what existing language, the honor belongs. Whether our first parents spoke Dutch, or Scotch, or Cherokee, is of no great importance; but certain I am, that whatever it was, it was an expression of mental images, of which nature around them furnished the originals, or of emotions which these originals had themselves awakened. It may be

proper to remark, that the Sanscrit, which was once spoken from the Gulf of Bengal to the Arabian Sea, and from the southern extremity of the country to the Himalaya Mountains, bears a greater resemblance than any other living language, to the primitive tongue; for it is a language complete in itself, composed of elements peculiarly its own, and containing no foreign terms. Though of "one lip and of like words" at first, the confusion of Babel, the changes in scene, and the diversity of habits and pursuits, sufficiently account for the three thousand tongues now spoken among men. Indeed, if you will take arbitrary words in common use; for example, numerals, you will discover a resemblance among them, which is susceptible of solution, only in an implicit belief in the scriptural account.

Welsh.	Irish.	Greek.	Latin.	Anglo-Saxon,	Dutch,
Un.	Aen.	Eis, Mia, En.	Unus.	An.	Een.

Danish,	Icelandic,	Moeso-Gothic,*	Old High German,	English.
Een.	Einn.	Ain.	Ein.	ONE.

Sanscrit,	Greek,	Latin,	Persian,	German,
Upar,	Uper.	Super.	Aboor.	Ober.

Anglo-Saxon,	Danish,	English.
Ofer.	Over.	OVER.

The American languages also, may be reduced to a few great divisions, which seem to centre near Bhering's Straits, over which, it is supposed, that the so-called Aborigines of this continent, crossed.

A slight examination will convince you, that these imitations of nature, enter largely into the formation of all artificial language. Though arbitrary terms have swelled its vocabulary; though time has wrought its "perfect work" thereon; though fancy has ornamented it and common consent modified it, yet this, the *frame-work*, is distinctly seen,

* A language of ancient Germany.

throughout the whole structure. In the selection of words, and the collocation of syllables, the best poets invariably avail themselves of the principle of imitation. From the days when Virgil urged his line into a regular Canterbury gallop, to the latest effusion of our own bards, much of the beauty of their productions may be attributed to this. Witness Dryden in Alexander's Feast:

"Break his bands of sleep asunder,
And rouse him like a rattling peal of thunder,"

or the well known passage in Gray's elegy:

——"the beetle wheels its drony flight,
And drowsy tinklings lull the distant folds."

When Milton was describing the opening of Hell's gates, he says, "and on their hinges grate harsh thunder;" but the gates of Heaven—how striking the contrast !—"on golden hinges turning." I am unable to pursue this interesting subject farther, and I can only commend it to you as every way worthy of your attention.

I remarked a short time since, that it was of little moment, in what language, our parents of the Garden were wont to converse. Indeed, (to employ an expression, which, though involving an absurdity, expresses my idea,) it might have puzzled a German linguist to have determined what nation claimed them, if we may take the dialects of their degenerate posterity as tests. For example, the Greek, the Roman, the Italian, the Dutchman and the Saxon, hear the bleating of a sheep, and then all, one after another, set up an echo: blechaomai, balare, belare, bleeten, blætan. The wolf prolongs his dismal howl, and Greek, Roman, German and Spaniard answer back: ololuzo, ululare, heulen, aullar. The matronly hen, calls her straying brood; kakkazein, says the

Greek; glucken, klokken, cloccan, cluck, exclaim German, Dutchman, Saxon and Yankee, all together.

These are only two instances of a thousand, to which I might cite you, were it necessary.

In farther illustration of this principle of imitation, allow me to relate an incident of recent date, which occurred upon the borders of one of our western rivers. When the first steamboat ploughed its waters, hitherto unrippled, save by the light canoe, a tribe of Indians that encamped in the vicinity, gathered upon its banks. As the "iron horse" came panting and puffing up the stream, they gazed in speechless amazement. No sound escaped them, but the Indian's one ejaculation, "ugh!" What thoughts they had, or in what speculations they indulged, I am unable to inform you. Perhaps they imagined it some anomalous sea-monster, corresponding to the traditionary Mastodon of their native wilds; perhaps a messenger from Manitou; but on it came, snorting and belching a mingled volume of smoke, steam and cinders. As it neared them, and passed, one of them uttered a sound, imitative of the rushing steam; the natives' ready ears caught it, and it rang from mouth to mouth, till it almost brought the fishes up, so loud the din. That sound became a word, and that word a name; and if a Webster should rise up among them, he would have one more word to enumerate and define, than if no steamboat had appeared among them.

Not only is every language constantly receiving accessions through this channel, but a *multitude* of tributaries are ever pouring their wealth of words into it. Our own language! Trace its mighty tide back to the period, ere it was dignified with any other name than English *tongue;* and farther yet, till you find it, nineteen hundred years by-gone, a *detached*

dialect of the rude tribes that roamed over Britain. Now, (A. D. 79,) we see the Roman eagle gleaming in triumph upon the queenly isle; while the conquest impoverished and debased the people, it enriched and ennobled the language with Roman and Grecian euphony, strength and purity. Let a little more than three centuries elapse, and the northern hordes of Scots and Picts poured down upon them, an avalanche of war and words. To repel these unwelcome visitants, Germany poured in her Saxons, Angles, (from whom our language derives its name,) and Jutes. Successful in their enterprise, they played the part that powerful protectors have since played, and as some small remuneration for the services they had so generously rendered, possessed themselves of the territory, which they had wrested from the invaders. This revolution in power, also wrought a change in language, of which a large proportion of our connectives,* common names, beside many verbs, are expressive witnesses. Contemplate its swelling flood again, when William the Conqueror ascended the throne; when, as Mrs. Hemans has it,

——"from the dim church-tower,
The deep, slow, curfew's† chime!
A heavy sound, unto hall and bower,
In England's olden time!"

Knowing the assimilating influence of a common language, the Conqueror made the Norman-French, the language of court and camp; and though the sturdy Saxons resisted as they best could, such cruel innovation, yet despite their opposition, much of Norman refinement was blended with Saxon strength. In 1453, we find the crescent-banner floating

* Conjunctions.

† Fire-covering bell, rung at 8 P. M. at which signal, the fires were to be extinguished.

from the towers of Constantinople; and the Greeks fleeing before the Turkish scimetar, are dispersed over Europe, bearing with them, what they could not leave behind them, their language, which undoubtedly had an influence upon our vernacular.

Soon we find such men as Dante, Petrarch and Ariosto, giving character and importance to the Italian, which, being diffused over Europe, necessarily produced an effect upon the English. In the fifteenth century, Spain occupied a conspicuous place among the nations, and contributed her share to the wealth of our tongue. Trace it down to the 18th century, when a new impulse was given to the Natural Sciences; when the Astronomer discovered new worlds; the Botanist, new plants; the Chemist, new minerals, and the Philosopher, properties of matter before unknown. Thus a multitude of terms, gathered from many tongues, enriched the treasures of our literature. Intercourse with foreign nations must not be omitted; the American Government has, at the present time, near two hundred officers in the different courts of foreign countries. Such are a few of the agents which are ever acting to modify and enrich a language.

> "Ah! who can hope his line should long
> Last in a daily changing tongue?"

Look at the English language as it now is. So extended and copious, that no thought need go naked and be repressed, for want of a word to clothe it; no idea is necessarily confined at home, because there is no term to express it, but clothing for all sorts of thoughts is ready for use, large and small, for infancy and age. It is the language of a vast portion of the new world, while it is spoken in the mightiest kingdom of the old. To it, the muscular Saxon has given his gutturals, and the Dane his vowels. The Greek has contributed strength

and expressiveness; the Italian, melody; and the French, his liveliness. War has drawn many of its characteristics in blood; aggression has grafted new terms upon it; commerce brings her gleanings, scholars polish, and time modifies it.

CHAPTER II.

Connection between natural and artificial language—Elements of artificial language—Glottis or vowel sounds—The brain the organ of language—O'Kelly's parrot—Vocal tubes—Marshaling the Alphabet.

With this sketch of the progress of our language, which, brief as it is, has extended farther than I designed, I must pass to a notice of the sounds which are employed in artificial spoken language. As we have already remarked, between natural and artificial language, there is no intermediate chasm, or bridgeless gulf to be o'erleaped; but the transition is easy, and the connection indissoluble. In the former class, we find expressions of fear, and exclamations of delight; in the latter, we find these very sounds composing its material. Indeed coughing, sneezing, shrieking and laughing, all contribute their shares to the fund of artificial language. The child of tender age, or the wild man, (if such a one there be,) each rings his changes of boisterous mirth upon the syllables "ha! ha! he! he! hi! hi! ho! ho!" and these very sounds are the constituents of artificial, vocal language. The Interjection of the Grammars, or as it may, with greater propriety, be termed, the

Exclamation, though a place is assigned to it, among human inventions, strictly belongs to the species which has already been discussed. The expression of emotion, rather than of thought, if we continue to give it a name and a place in artificial language, it must be as the *link* that binds the two great divisions together.

All the changes which time and the elements have wrought on lake, river and plain, tracing the deep-worn furrows of six thousand years upon the fair face of Nature—all the revolutions which have *telegraphed* the ages as they roll, and all the different phases of thought, feeling and action, which every new generation of man has presented, all these have been unable to modify, multiply or improve these elements of artificial language. I refer to the glottis, vocal, or as they are commonly called, vowel sounds. Whatever of fulness, clearness, elegance, or life, belongs to the artificial medium, is derived directly from the natural. These elements are actually heard in the voice of the dog, the bird, and the infant; in the infant, I mean, whatever may be its vernacular; whether it dangles from the back of an Esquimaux mother, or plays upon the banks of the Ganges. These voice or vowel sounds, are the fluid *material* of all artificial language, which would naturally flow on, in a current of continuous sound, did not the skill of man, form, limit and distinguish it. On the other hand, the mouth-sounds or consonants compose all that is strictly *artificial* in spoken language; here the superiority of our race is clearly seen; not in the ear, not perhaps in the vocal organs, but something infinitely nobler than mere dust, however, refined :—*intellectual pre-eminence*. That man might produce and combine these sounds, giving ease and elegance to the frame-work of language, otherwise unyielding and awkward, without evincing

his high origin and noble powers, is probable; but that while he performs the numberless delicate movements in the act of articulating or jointing sounds, he should, at the same time, attach to each, an idea; combine them and express thoughts; multiply them, and trace out the most intricate processes of reasoning; and all this, without actually possessing and exercising an intellect but little less than angelic, is not only improbable, but so far as we know, impossible. Artificial language then, implies the possession of mind, and the organ of the faculty of language is not the ear, but the *brain*, as the Larynx and vocal tube are its instruments. In this light, the far-famed parrot of Colonel O'Kelly, that sang fifty tunes, distinctly articulating every word, or the dog of Zeitz, that talked, or rather barked German, are readily disposed of. The curious tubes which were invented some years since, in Europe, which will produce certain articulate sounds, simply by blowing through them, may as properly be called language, as the parrot or the magpie that is taught, abandoning its own expressive tones, to be a mere machine for the amusement of children.

It is frequently said, that there are no striking facts, no startling disclosures in language, like those which lure him on, who pursues the study of Chemistry, Philosophy or Astronomy. I know what view, they have taken of language, who entertain such sentiments; from my heart I commiserate such blindness. Just think of the millions that are numbered with the dead. Who can enumerate them? Think of the seven hundred and thirty-seven millions that now live, and form a conception, if you can, of all the thoughts and feelings, and emotions and passions, that have occupied and agitated each bosom, for thirty, fifty, nay a *hundred* years, and then remember that the thirty-five sounds of which the English language

is composed, are sufficient to express them all! Is there not something wonderful in this? Is it not a noble subject for contemplation?

In the brief analysis of the elementary sounds, which I am now about to present, it is not necessary to inquire into the origin of written legible language; to determine whether it was communicated to Israel's leader by the Almighty Himself, or whether it is the result of the combined wisdom, of ages; whether the alphabetical characters were originally the delineations of visible objects, as they are now the signs of sounds, or whether they may be traced to the hieroglyphics of Egyptian Astrologers. It is not for us to pierce the gloom that shrouds the past, or to disturb the gathered dust of ages, to discover who first conceived the happy thought, that as sounds are the material of spoken language, so characters, the *representatives* of those sounds, should compose the elements of written language. Too long a period has elapsed since the decease of that illustrious unknown, to pronounce a eulogy upon him; but I will at least venture to remark, that while their first use (and a glorious one indeed,) should have been to commemorate his name, if the discoverer of the new world, and the inventor of letters were to contend for the wreath of immortality, the wise and good throughout all time, with a unanimous verdict, would award it to the latter, as the most important, the *noblest* discovery in the history of man. I make no apology for dwelling so long, upon the elements of language; we find them in the spelling book, we repeat (not to say *learn*) them, when children; we pass on, forget, and sometimes despise them. I would have you remember how wonderful is the power of these 26 characters, as the instruments of thought—how in the words of Dr. Good, "the language of the pen enjoys an adamantine existence, and will

only perish amid the ruins of the globe—how before its mighty touch, time and space become annihilated—how it joins epoch to epoch, and pole to pole"—how, before it, the globe's broad zone dwindles to a line, and at the word of *this* Joshua, time itself stands still!

A perfect alphabet should not only contain a distinct character for every elemental sound, but it should neither be encumbered with supernumeraries, nor confused with interchangable letters. By this test, the alphabet of our own language appears defective in every particular. The victim of caprice and change, for a long period of time, its present imperfection is not so much a matter of wonder, as it is, that we do not find it *more* barbarously mutilated and mangled. Whoever has been seized with a sudden desire to be immortal, has left his inglorious memento upon these innocent characters. Misguided learning has touched them with too careless a hand, and whatever caprice has suggested or chance effected, has become indurated by time, legalized by scholars and irrepealable by use.

I never contemplate the grotesque assemblage, known as a *nation* under the name of English Alphabet, without thinking of an ill-accoutred and worse disciplined company of militia, answering to all sorts of fanciful and inappropriate names. Here half a dozen candidates for the same office, and there, one bearing, as he best can, the glorious responsibility of two or three. You call for the guttural K; K, C and Q* step promptly out. Order contemptuous S to the right of K; and X,† in its two-fold capacity jostles them both aside and stands sole representative of the pair. Z is called, and while this decrepit character advances, officious X‡ hobbles up, answer-

* As in king, call, queen. † Tax or taks. ‡ Xerxes or Zerxes.

ing to the same name. But it will not do, and X is obliged to fall back upon its "reserved rights." In retaliation, Z calls in the aid of G, and G Z* complete the discomfiture of X, depriving it of a place, however humble, in the brotherhood. "C!" "*C*oming *c*ertainly," says our hero, but ere he reaches the line, S hastens out on one side, and K presents itself on the other, and discomfited C† almost doubting (and with good reason,) its own identity makes a speedy retreat.

Now for the musicians, for such in truth, are the glottis or vowel sounds in language. "Vocal I!" Out comes this important personage, and coquettish Y‡ keeps company. You call for Y, and E§ compressing itself as much as possible, reports presence. "O!" Here it is, and portly W just behind it, in the capacity of two Os.‖ You wish to test the claim of I to a place among vocals, and summon it again; but alas! no sooner is this done, than A, as heard in a-t, and ee, as heard in ee-l, intimately unite, and produce its sound, as in mind, m*aee*nd. It prefers a claim, from its sound as heard in ill, but ee shortens itself and ill is pronounced without the aid of I. U is strenuous for the sound as heard in p*u*ll, but oo shortened, readily fills its place. At this moment, forgotten J, as soft G, modestly asks our attention; saying that, though perhaps, it cannot boast as great antiquity as its companions, yet the want of age should not preclude the free exercise of *j*ustice. But lo! D and Y come forward, and hand in hand displace unfortunate J, and a*dy*e and *dy*ustice are age and justice still.¶ Again is our review prolonged by C

* Exert or egzert. † Cell or sell; cave or kave. ‡ Cri or cry.
§ Youth or eeouth. ‖ Water or ooater; wave or ooave.

¶ By a close connection of the elemental sounds of d and y, the truth of this will be evident to him who is blessed with a correct ear; as in jade, *dy*ade.

and H, that complain bitterly of the hardness of their lot; C declares that as it has been ruthlessly deprived of a name and place *by itself*, it at least demands a hearing while it urges one more claim. Wheezing H whispers that though it is grievously afflicted with asthma,* yet with its companion C, it can nevertheless fill an important place in language. So by way of illustration, they stand side by side in the words tea*ch*er, lee*ch*es, and sat*ch*el, but, (O the vanity of mortal hopes!) T and Y decoy them from their place a moment, and treacherously step in, and who can distinguish between teacher and tea*ty*er; between leeches and lee*ty*es, and is not sa*ty*el, as much satchel as ever?

Such are the scenes of confusion which an alphabetical muster and review day presents. Were I to marshal these characters, I hardly know by what rule of order it could be effected, but we will see. I have already stated that there are thirty-five elementary sounds in our language; here they are, exhibiting no very near relationship to the motley crew which we have been inspecting.

Ringing sounds or vowels. The musicians of Language:

A-ll, *A*-rt, *A*-n, *A*-le,

Ou-r, *I*-sle, *O*-ld, *Ee*-l, *Oo*-ze, *E*-rr, *E*-rrd, *I*-n.

Half-ringing sounds:

Si-*ng*, *L*-o, *M*-a, *N*-o, *R*-oe.

Explosives or Artillery of the second division:

B-ow, *D*-are, *G*-ive.

Half-ringing Aspirations:

V-ile, *Z*-one, *Y* e, *W*-o, *Th*-in, A-*Z*-ure.

Clangless Sounds. The mere clink of the vocal keys:

I-*f*, Ye-*s*, *H*-e, *Wh*-eat, *Th*-in, Pu-*sh*.

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* Difficult respiration.

Explosives or small arms, of the third division:

U-*p*, Ou-*t*, Ar-*k*.

Thus I have formed these worthies as I best could, and indeed, they have quite a military air.

These thirty-five elements are competent, either singly or in combination, to produce every sound which can be considered English; to them, in the language of Harris, "we owe that variety of articulate voices, which has been sufficient to explain the sentiments of so innumerable a multitude, as all the present and all the past generations of men!"

It now remains to speak, first, of the organs of the mouth, which are employed in articulation, and of the physiological formation of the different sounds, of which alphabetical characters are the representatives.

CHAPTER III.

Organs of the mouth—Division into pairs—Experiments—H—The vowels—Consonants or Articulations—Vocal and Whispering letters—Welsh peculiarity—Tables of sounds—Conclusion.

The narrow aperture in the middle of the Larynx, communicating with the mouth, is called the glottis, from a word in the Greek language, signifying originally *tongue,* and thence employed to designate the mouth-piece of a wind instrument. A convex, triangular lid, closes this opening to the Larynx when we swallow. This lid is called the Epiglottis; viz: "*upon the glottis,*" and may be seen at figure 4 on page 150.

The mouth presents a more complex mechanism than the Larynx or Trachea. Here a *pair* of organs are always united in producing a distinct sound. Some part of the tongue always constitutes the active or moving individual in every pair, and one or another of the different parts of the cavity, is the other. Now, let us divide these organs into pairs, commencing back at the opening into the throat. The root of the tongue on one side, and over against it, the palate, on which the glottis-cover rests, compose the first pair; the upper surface of the tongue, and the roof of the mouth, the second pair. The tip of the tongue and the upper teeth, or the part immediately above them, are the third couple. The lips, which are the folding doors of the mouth, constitute the fourth pair; and finally, the two *side* doors leading to the nostrils, and answering the purpose of a sound-board, compose the fifth pair.

Every part of the vocal apparatus has now been examined; the Trachea, the Larynx, and through its aperture, the glottis, we entered the mouth, and classed the organs in pairs as we passed along towards the folding doors. The voice-machine is ready for operation, and we have only to cause the *raw material;* viz: air, to pass through it, and set the various organs in motion, and we shall immediately have the elements of speech. The air, in its passage from the lungs, may be compressed at the glottis, or in its passage through the mouth, by the different pairs of organs, which were just now enumerated. Suppose then, that we make some experiments with this wonderful piece of mechanism. Let us open the mouth, suffer all the machinery to remain passive, and propel a current of air, by means of the great bellows or lungs, through it. There! A *breath*, scarcely audible, is the result; not exactly a sound, but rather the *preparation* for one. Inflate

the lungs again, and give a stronger blast. Now you have a hard breathing, like the rushing of the wind; a real element of speech. Take the syllable orse; breathe hard as you sound it, and you will have, not orse, but *h*orse. Take the line, "Up the ***igh ill e eaves a uge*** round stone," and exhale the air in this manner, when pronouncing those words which are italicised, and you will produce a line much more intelligible and true to nature; viz: "Up the *h*igh *h*ill, ***he*** *h*eaves a *h*uge round stone." Here then, we have the aspirate or rough breathing, which is expressed in Written language by the character or letter H, which, by the way, would answer as appropriately to the name Jack, as to the one with which caprice christened it, and under which long usage has recognized it.

Our English relatives, across the water, treat the H very capriciously; whenever it ventures to be the initial sound, it is unwarrantable neglected, and, but for the peculiar humor of its tyrants, might sink into utter insignificance. They, however, generally assign it a place, which it never presumes to occupy. For example, a lady from the top of the stairs calls her servant:

Enry, ere!	this	*ash*	is cold–take it down,	*eat*	it,
Henry, here!		hash	and tell the cook to	heat	

and bring it up again.

Suppose that we proceed farther with our experiments, and contract the glottis or opening into the larynx, and then suffer the air, thus compressed, to rush out with sudden expansion, vibrating throughout the arched roof and other cavities of the open mouth, and you have a clear, full tone, called a voice-sound or vowel, the contraction of the glottis, producing the loud *clang*.

Now open the mouth; suffer the tongue to lie motionless in

the lower jaw, and the other organs to remain still; contract the glottis, and then allow the air to rush out, and you have the pure vowel A, as in ah. You can change this position of the mouth in two ways, either by dilatation or contraction; the former consists in widening the mouth, in which the cheeks will be full; the latter in lengthening it, when the cheeks will be partially drawn in, and the lips protruded; in either case, you will observe, that the different parts of the machinery are brought nearer each other.

Let us first dilate the mouth; the teeth become visible; the tongue is curved and rises towards the roof; now contract the glottis, and exhale the air, and the clear, sharp sound E passes out between the tongue and the roof of its prison.

Dilate the mouth as much as possible; now the tongue and the roof of the mouth are brought so near, that a sound can hardly escape between them; contract the glottis and expel the air, and you have the thin vowel, I.

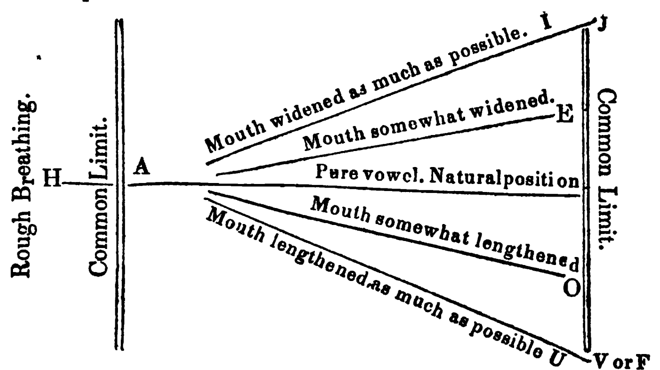
Only one change now remains to be made; that of contraction. We will do this by forming a circular orifice with the lips, and allowing the tongue to shrink back with its hollow surface into the lower jaw, and we shall have the sound O.

Contract or lengthen the mouth as much as possible, and the narrowed sound U, passes out between the lips.

The experiments which we have made in this chapter, have been with the glottis, and though we have brought some of the pairs of organs nearer one another, than the natural position in producing the sound A, yet we did not intercept the sounds, by *touching* the tongue and roof of the mouth, or the lips; so the sounds which we have discovered, are strictly glottis sounds, generally called vowels, from a word meaning voice. A, I and U are the limits of the vowel sounds, as

distinguished from those made by *touching* the organs; for suppose the approximation of the organs be carried so far, that there is an actual contact of the organs, and thereby an interception of the sound, these vowels would be changed, I, becoming J, and U, V or F.

Omit to contract the glottis, and instead of A, you will have the breathing, H. The following is a diagram, exhibiting the deviation of the simple voice sounds from the pure vowel A, as in ah, until a slight change in the position of the organs cause the letters at the terminations of the longer lines to would pass over into other sounds :



Thus we have discovered in a series of experiments how the principal vowels are formed. It was remarked that there are thirty-five elementary sounds. To the voice-sounds may be added the sound of O short, as heard in c-*oa*-t; of U, as in p-*u*-ll; of Oi, as in b-*oy*, and of O, as in *O*-bject. We may also swell the number of mouth-sounds or consonants by the addition of the sounds represented by J, Q, R final,

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Note—On page 188, E–rrd should be E-nd; and in the half-ringing aspirations, *Th*–in should be *Th*–en.

and Ch, as heard in *J*-ew, *q*-ueen, wa-*r* and *ch*-ur-ch, thus increasing the number to forty-three. Of the vowel elements it may be said, that they flow freely from the throat, modified indeed, but not interrupted by the organs of the mouth. It is an interesting fact, that many words are formed upon this peculiarity of vowels. Thus, Aa, "a river," which has been applied to eleven rivers in Westphalia, Switzerland and the Low Countries; the two As flowing on in sound, like the streams they designate. The Greek, too, marking the ceaseless flight of time said aei,* the German, je, and the English, aye. The superiority of human speech for the expression of thought, is especially seen in the numerous *articulations* of which it is composed. These articulations are the consonants of language, and like the keys of the flute and the fingers of the musician, are ever varying and limiting, or to use a familiar, but expressive word, *jointing* the sound, which issues in full volume from the throat.

In treating of the physiological formation of the Consonants, you must carefully distinguish between the name and the nature of a letter. Thus ef designates the sound which is made by bringing the lower lip near the upper teeth, and then blowing through the narrow aperture between them, as in f-ather. Be is the name of another representative of sound, but while you cannot pronounce the *name* without opening the mouth, the *sound* is readily made within the closed lips; b-oy. To this confusion of terms, may be attributed the popular error that the mouth-sounds cannot be produced without the aid of a vowel; an absurdity which has received the sanction of time, and the embellishments of tradition.

In classing the sounds, it will be proper to enumerate them

* Signifying always, perpetually.

according as they are produced by the partial or perfect contact of the several *pairs* which have been specified.

TABLE OF
Mouth-Sounds, or Articulations generally termed Consonants:

Pairs of Organs.	*Names of sounds*	*Letters.*	*What Sounds.*
Root of the tongue and the palate.	Throat sounds or Gutturals.	K Ch Q C like k; G Ks Gz.	*K*ing *ch*oir, *q*ueen, *c*at,* gold, ta*x*, e*x*ist.
Upper surface of the tongue and roof of the mouth.	Palate sounds or palatals.	Ch J L Y	*Ch*ime, *J*ames, *L*aw, *Y*es.†
Tip of the tongue and upper teeth.	Tongue sounds or Linguals.	T Th D R N & Th	*T*ell, *Th*ink, *D*id, *R*od, *N*o, *Th*en.‡
The two passages to the nostrils.	Nose sounds or Nasals.	Nk Ng N M	Thi*nk*,§ thi*ng* *man*.
Tip of the tongue and *both* rows of teeth.	Teeth sounds or Dentals.	S C Z & X like Z	Sell, Cell, Zone, *X*anthus.
The Lips.	Lip sounds or Labials.	F Ph P Gh like F; V B M, & W like oo	*F*an, *ph*ase, lau*gh* *V*an, *B*oy, *M*an, *W*ater, *Oo*ater.

By a glance at the articulations, you will perceive that they may be divided into two classes; the one of shadowy, whispering sounds, modified by particular positions of the organs; the

* Four letters or combinations have the sound of k. Ks & gz express the sounds of X.

† Ty would express ch; and dy, j. Refer to the account of Y.

‡ Th in think, is the aspiration, and th in then, is the corresponding vocal.

§ In the nasal nk, the sound is stopped before the clear, ringing sound is produced.

other of these very sounds made vocal or *loud*, by the action of the Larynx, at the will of the speaker. For, though the organs may assume any required position, *volition* is still necessary to the production of voice.

A distinct view of these two classes is given in the following

TABLE OF

Whispering Letters and their corresponding Vocals:

Names.	*Sounds.*	Aspirations or whispering sounds.	*Letters.*		Whispering sounds made vocal.	*Sounds.*
Guttural,	Croaking,		K	G		As in good.
"	X, as in axe,		Ks	Gz		As in exert.
Palatal,	Sneezing Ch, as in satc*h*el.		Ty*	Dy		As J in major
Lingual,			T	D		
"	Lisping, as in no*th*ing		Th	Th†		Soft, as in *th*en
Dental,	Hissing,		S	Z		Whizzing.
"	Hushing,		Sh	Zh		Soft J.‡
Labial,	Puffiing,		P	B		Bleating.
"			F	V		
Breathing,	As in what, whirled.		hW§	W		As in world.
Nasal,	As in clank.		Nk‖	Ng‖		Clanging.
Aspiration,	Panting; as in he.		H	Y		As in ye.¶

This table presents very much of interest and instruction, but with a few comments, I leave it for your own investigation. The letters in the right hand column cannot be distinguished from the corresponding aspirations, when sounded** in a whisper; since in this only, do they differ from them; viz. in possessing somewhat of vocality, or what is better

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* The sound expressed by ch, is simply ty, sa*ty*el; Dy as J, ma*dy*or.

† Sometimes represented by dh.

‡ The French sound as in a-z-ure.

§ Generally written Wh, but the aspiration actually precedes.

‖ Used only at the end of syllables. ¶ Y is a Palatal.

** Not the *name*, but the element.

known by the appellation of loudness. For example, the following question, "*G*an you *d*ell *z* *v*rom c or *v*eal *v*rom feal or *b*ee*v* *v*rom peef, when whispered, and who knows whether I say *w*orld or whirled (hwirled)?" differs very slightly in sound, from "Can you tell c from c, or feal from feal, or peef from peef, or whirled from whirled?" You perceive then, that the aspirations are the shadows, or if I may use the expression, the *ghosts*, the disembodied sounds of the vocals. Now the sound of K is produced by closing the nasal passage* and pressing the root of the tongue against the palate. In this little chamber, the breath is pent up, and the sound produced by its explosion. Again, in G, the air is closeted as before, and acted upon by the vocal chords, its peculiar muffled tone is heard, until the little apartment is filled, when bursting the obstructing tongue, it escapes through the mouth. T is formed by pressing the tongue against the gums behind the upper teeth, and forcing the breath between the pair, when the explosive aspiration, as in *t*-u-*t*, becomes audible. With the same position of the organs, but less compression and a vibration in the throat, you have its mate, D. Place the tongue as before, but allow the vocal tone to escape through the nose, and N is produced. Close the nasal doors again, compress the lips and attempt to blow them open, and at the instant you succeed, P will issue. Shut the folding doors as before, but open the side-passages; give the breath vocality, and M makes its exit. Separate the lips while its sound continues, and you will have the infant's syllable, m-a. Close every avenue, as in preparing to sound P; vibrate the

* This being almost involuntary, few persons can do it at will. It is effected by drawing the curtain of the palate over the nasal passage. The air which distends the cheeks can escape through the nose, while the mouth remains closed.

air in the Larynx, and the muffled bleat of B will be produced. If you allow the folding doors to stand ajar; viz. permit the lower lip to rest upon the edge of the upper teeth, as the breath whistles through, and plays upon the lip, F will be heard. Add the vibration, and V will take its place, thrilling the lip with a peculiar sensation as it passes out. Bring the point of the tongue nearly in contact with the upper teeth, and as the breath sweeps by their smooth, firm edges, the sound of C and S is produced. Lessen the compression and add the vocal tone, and Z whizzes past. If you protrude the tongue so far that its tip is between the teeth, your efforts to give the sibilant, will produce Th, as in *th*ink. If you attempt to sound its mate, Z, Th or Dh, as in *th*en, will be the result. With a li*th*ping per*th*on the difficulty i*th*, that hi*th* tongue i*th* too eager to e*th*cape from i*th* pri*th*on to tarry long enough behind the teeth to produce E*th*. Bring the tongue up near the palate, and let its sides come in contact with the lateral gums. Thus you form a broad, rough channel in the attic of the mouth; the ribs or rugæ of the roof being the rafters, and the papillæ of the tongue, the unsmoothed floor. Propel the breath through this long, low garret, and Sh will rustle along. Give it vocality and it becomes Zh or Zy, as in a-z-ure. Incline the tonguy floor so that the tip of the tongue touches the palate; narrow it, so that it does not reach the sides of the mouth, and L will flow out. Give vocality to the breath, and as it passes through the mouth, vibrate the tip of the tongue, which playing upon the volume of sound, produces R final, as heard in Wa-*r*. Play a sort of tattoo upon it, and you have the trilled R, as in p-*r*-ay. Take a word with the vocal initial W, as world. Blow upon it as you would in extinguishing a lamp, and as one would naturally suppose, the world is *wh*irled (hworld.) N, with the vo-

cal G, produces the clear, *ringing* tone of a bell. Stop its vibration, and like the cracked bell, *rinkink, rinkink*, is the only sound which is produced.

This brief description will give you an idea of the nice distinction which is made between vocal and aspirate articulations. Some nations entirely disregard it; for example, the Welshman says, "I *f*ow *p*y *Sh*upiter *th*at *Sh*enkin i*s* a wi*ss*ar*t*," making nine errors in the same number of words; viz. T for D; F for V; P for B; Sh for J, twice; Th aspirate for Th vocal; and S for Z in three instances.

X. Take the word tax. Now in sounding the x, you will observe that there are two movements of the tongue; the former, when the root is brought in contact with the palate, which produces the k; in the latter, the tip of the tongue is darted out like a serpent's, against the teeth, and you have the hissing sound s. Do you not see that x is only a compound of a guttural and a dental, and that you pronounce ta*ks* precisely as you would ta*x*? In the word example, x occurs again. Suppose that we supply its place with ks; here we have it then, eksample. Stop! eks, eks, we do not sound it so in this word; there is too much wind, not sufficient vibration and consequent vocality. How shall we remedy it? The only change necessary, is to make the whispering ks *talk loud*. Let us see if we have any vocal sounds of this description. Yes, z is the mate of s, and g as heard in good, of k; suppose we substitute the mates of k and s for them: egzample; now we have the correct sound of x in this place. Not only is x a substitute for ks and gz, but when it is the first letter or initial of words derived from the Greek, it casts off the g and has the sound of z; thus Xerxes is pronounced Zerkses. X then, is not the representative of any sound which is not indicated by other letters either singly or in com-

bination, and is retained rather for convenience than of necessity. C, when a guttural, is sounded like k, and when a dental, like s; for example, the syllable cat is pronounced as *k*at, and *c*ell as *s*ell; with this letter, therefore, so far as its sound is concerned, we could dispense. K seems to be highly privileged among its companions; sometimes it has a substitute in c, as we have already seen, and sometimes in q, which accompanied by u, does many good offices for k, having the same sound; thus quake or kwake, quoit or kwoit. Mr. Walker, deprecating such indolence, employed it to bring up the rear of words otherwise ending in c, as critick, tactick, and thus exhibited the principal and its substitute standing side by side, in the discharge of the same duty, which must indeed be *twice*, if not *well* done. Mr. Webster, thinking such an array of similar sounds unnecessary, released the k from this degrading position, and it has since resumed its wonted air of superiority in written language.

Y. The name of this letter bears as much resemblance to its nature, as William does to the character of the person to whom it is given. When analyzed, it is resolved into U I closely and rapidly pronounced; (u like oo.) These letters are also combined in its form; U or V is the upper part, and I is united at the curve or angle of the lines. In the Saxon, one of the constituents of our own language, even the point or dot which we usually place above the small i, is retained.

In sounding I, (a ee; a, as in father, and ee, as in eel,) the tongue, before the sound ceases, is brought nearly in contact with the roof of the mouth. In giving Y, as in ye, a very slight contact actually occurs, and a rapid, muscular movement of the tongue, as if an effort to prevent a perfect contact or articulation, to which movement, Y owes its peculiar sound. But commence with the sound of Y, as in ye, and

while you prolong it, allow the tongue to come into uninterrupted contact with the roof of the mouth, and it will end, not with Y, but J. Make the experiment carefully, and you will be convinced of the fact. Thus a people who once inhabited Jutland, are called Iutas, Ytas, Jutes. So we find in the Mæso-Gothic alphabet, a dialect of ancient Germany, Y and J indicated by the same character, G. Indeed the difference in the organic formation of I and J is so slight, that the easiest transition from voice or vowel sounds, to associated or mouth sounds, is generally considered to be, from I to J, by an actual contact of the almost touching tongue, to the palate; Iudea, Judea. But when we consider the sound of Y as intermediate; on the one hand, as the vowel I, and on the other, the palatal Ye, almost J, how appropriately may it be considered as the link of the two great classes of Glottis and Mouth sounds. As a vowel, having the exact sound of I or Ee, it does not enrich the vowels, and might be dispensed with, and anciently supplied those places where we employ I or E only; thus:

Modern English,	Ireland,	Idle,	Iron,	Ire,	Evil,	Hymn.
Saxon,	Yrland,	Ydl,	Yren,	Yrre,	Yfel,	Ymen.

In conclusion, then, Y should stand in the scale, thus:

I I, as is i-sle, i-n—vowel Y, as in tr-y, dut-y—
Mouth-sound Y, as in yew—J, as in Jew.

We have now examined all the elements of speech, but we have examined them *separately*, and can form no better conception, from such an investigation of their power and harmony, when blended together in coupled sounds, and beautifully articulated in words and sentences, than, from hearing the several notes of the scale, sounded one by one upon the flute, we could appreciate the soft melody of its tones, varied and modulated by the breath and fingers of the skilful

musician, into the plaintive air of "The Last Rose of Summer," or the spirit-stirring music of the "Marseilles Hymn."

Distinct articulation is absolutely indispensable to good speaking. The recurrence of such syllables as vlst, tldst, skst, st, thst, lks, bdst, dths and rsts, imperiously demands it. While it enables the speaker to enunciate with greater ease, and the hearer to listen with greater pleasure, it also compensates for weakness of voice, and renders euphonious what would otherwise be harsh and dissonant. This articulation cannot be acquired without effort, long and unwearied; and I must be allowed to say, that were a *part* of the attention which young persons so willingly devote to determining the proper obliquity of their toes, or the precise angle at which they should carry their heads, or the exact curvature of a bow, given to the complex and beautiful movements of the tongue in blending and combining these elements—if *this* were done, the lips of so many persons, otherwise agreeable, would not open upon us a relentless fire of sounds, linked and welded like chain-shot; salute us with a hissing utterance, that would throw a Frenchman into convulsions, or torture us with a succession of creaking *confusions*, more like the filing of a saw, than the melody of thought-tinged language.

Reader, if I have added ought to your little store of happiness; if I have opened to your vision, a field of new and delightful contemplation; if I have awakened an interest in the subject, which will never be abated till life's end, I can, with a light heart, bid you farewell. For investigate long and diligently as you may, each step will only acquaint you with the ever-widening prospect beyond, and when Nature's living lines grow dim, and the tones of watching friends are hushed around you, and your own voice falters, you can then say, with him of old, "I AM LEARNING STILL!"

COMMENDATORY NOTICES.

From a number of letters with which literary gentlemen have favored us, we give the following extracts:

From REV. J. S. MAGINNIS, *Professor of Theology in the Hamilton Lit. & Theo. Inst.*

DEAR SIR :—I am gratified to state, that it was with much satisfaction, I examined, in manuscript, several Chapters of your work on Language. Its style and method of illustration, are, I think, admirably adapted to interest and instruct the young, for whose benefit you have written. It contains, also, much valuable information which is worthy of the attention of more mature minds. * * * * * *

I trust you will not hesitate to let it go before the public.

From JOHN F. RICHARDSON, *Professor of the Latin Language and Literature in the Hamilton Institution.*

GENTLEMEN :—I have examined the work of Mr. B. F. TAYLOR, which you are publishing, entitled "ATTRACTIONS OF LANGUAGE," and am happy to add my testimony to that of others, in its favor. I consider it well adapted to fill an important and useful place in a course of Education for youth, which, I believe, has not yet been occupied. The Author has evidently pursued a wide range of investigation, and has collected his materials with great care and judgment. He has imbodied an amount of information in regard to the nature, the subjects, the varieties, the powers and uses of Language, which, if well understood, must, I think, not only divest its study of much, that, in the young student, has heretofore been obscure, and consequently dry and tedious, but must also invest it with a degree of lively interest, which will render the entrance upon the study of our language much more inviting and promising. This certainly is a great desideratum. * * *

The subjoined letter was received from GEORGE R. PERKINS, *Principal of the Utica Academy and Author of an Arithmetic.*

I have carefully examined the first nine chapters of the "ATTRACTIONS OF LANGUAGE," which you were so kind in forwarding to me. It has afforded me considerable amusement and much instruction. It contains many facts in Natural Science, presented to the reader in a very *attractive* form. Should the subsequent chapters be as interesting as those which I have read, I doubt not the work will be well received by the public.

Professor EATON *of the Hamilton Institution, remarks:*

The plan of the work is original and ingenious; and the Author has executed it in a manner which cannot fail to interest and profit the reader. Mr. TAYLOR seems to have deeply studied his subject, and expresses his matured views with great liveliness, clearness and force. The work is designed to supply a desideratum in the elementary study of Language, and make a subject proverbially dry and irksome to the young mind, attractive and delightful.

In a private letter, the HON. P. GRIDLEY, *Judge of the Fifth Circuit of the State of New York, writes as follows:*

I have been delighted with the highly poetical dress in which the youthful Author has invested many a grave and philosophical principle. He has certainly succeeded in making the pursuit of it truly *attractive*, while leading the learner through the flowery meadows, the deep forest and the starlit sky, gathering everywhere in his course, arguments and illustrations in support of his theory.

From JOHN H. RAYMOND, *Professor of Rhetoric and of the English Language in the Hamilton Lit. & Theo. Inst.*

MESSRS. J. & D. ATWOOD:—I have perused the sheets of Mr. TAYLOR's book with no little satisfaction. The subject is one possessing great intrinsic interest, though regarded by most persons, strangely enough, as hopelessly dry—and yet *not* strangely, considering how it has been the fashion to treat it. Mr. T.'s method is popular and attractive. His illustrations are numerous, his imagery exuberant, his diction free and buoyant,—perhaps, at times, a trifle too frolicsome,—and I do not see why it should not be a favorite with the public; especially with the young, for whom the Author modestly professes to write. Mature minds, however, and those well acquainted with his subject, may read this little volume with profit; and will indeed be best prepared to appreciate its chief excellencies, both of matter and manner. Such, more than others, will be struck with the originality of the plan, and with the interest which a joyous and poetic spirit can throw over this region of abstractions.

As a Grammarian, I could wish that more of the volume had been reserved for the *Third Part*, which treats of *language proper;* but this is a feeling with which the majority of Mr. T.'s readers will not sympathize, being as well contented as himself to linger amid the beauties and wonders of inanimate and irrational nature, and not knowing so well as he, how infinitely more beautiful and wondrous the processes, by which the subtile workings of human reason become self-revealed to kindred intelligences. The additional volume promised in the preface, will, I trust, be wholly given to this branch of the subject. An accurate analysis and copious illustrations of the *Language of Reason*, would well complete the work, which Mr. T. has well begun.

HAMILTON, June 7, 1842,